REMARKS

ON A

LATE PUBLICATION,

ENTITLED

"A VINDICATION OF THE OPINIONS

DELIVERED IN EVIDENCE

BY THE

MEDICAL WITNESSES FOR THE CROWN,

ON

A LATE TRIAL AT LANCASTER."

BY JAMES CARSON, M. D.

Sed cum experientiam in hâc re sæpe fallacem, et medicos plerosque imitatorum servum pecus, fuisse noverim, dubitare cogor.

CULLENI NOSOLOGIA.

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1808.

REMARKS

ON A LATE PUBLICATION,

&c.

UPON my return from Lancaster, after a late trial, I found that such misrepresentations had generally prevailed respecting the substance of my evidence, that I considered it incumbent upon me to publish an enlarged statement of it, and had proceeded so far as to put it to the press. Finding, however, that the trial would be published, which, for some time, was uncertain ; and knowing, from the abilities of the Short Hand Writer, that the whole would be correctly done, I abandoned the intention of making a separate publication, hoping, as I have found to be the case, that the perusal of my evidence would soon correct every unfavour-

able impression. My intention of suppressing the publication of the pamphlet was well known to the gentlemen who have lately given to the world a vindication of their evidence, before Mr. Hay went to London. It could not, therefore, be in consequence of any supposed intention of publishing on my part, nor any uncommon desire I had shewn to establish my opinions, that these gentlemen have been induced to publish a defence of their evidence. Indeed, though they do not fully declare that they knew that I had abandoned the intention of publishing, they acknowledge that they were not influenced by any such consideration, but that they conceived it necessary to take this step in the just vindication of their opinions, and for the purpose of calling the attention of the public to the nature of medical evidence. This is certainly a very uncommon kind of controversy. The opinions that a man delivers upon oath have generally been considered so sacred as not to come within the province of criticism. These gentlemen say that, on this occasion, I arraigned their opinions. I did not arraign any opinions. I declared (and, in the situation, could I do otherwise?) the honest convictions of my own mind, in obedience to the dictates of my own conscience, without reference to the opinions of any man. Was that a time for

courtesy? or could I be expected to violate the sacred obligations of an oath, out of deference to them? These gentlemen, however, have contemplated my conduct in a very different point of view. They have considered what, on my part, was an indispensible obligation, as hostile to them, and have taken more than ordinary pains to convince the world that my opinions were erroneous, and my motives unfair. In consequence of the great agitation which this affair has produced in Liverpool, I have applied my mind to the subject since my return, with increased intensity. I have reconsidered the opinions I supported, and have, by every succeeding reflection, been more and more convinced, that, in every material point, my evidence was exactly correct; nor has the recent publication of the opinions of my opponents, which they have endeavoured to support by a large collection of authorities, made any alteration in my sentiments.

In entering upon the perusal of the pamphlet, in which myself and my opinions have the honour to be so frequently mentioned, I was not a little struck and surprized at the difference which the case here exhibited, from what it was as described before the Hon. Sir Alan Chambre, at Lancaster. I was not present at the examination of the body,

nor did I attend the inquest of the Coroner. Whatever, therefore, is not contained in the published Trial, must be thrown completely out of the question. The gentlemen had an opportunity of correcting their evidence; the trial, therefore, may be supposed to convey a fair statement of the appearances and symptoms, and of their deductions from them. In an affair of this nature, a very slight variation in the statement of facts might produce a very material change in the deductions. It seems not a little surprising that gentlemen should be carried, by a zeal for their own defence, so far as to contradict, publicly, the solemn asseverations of an oath. For, if they concealed any thing that was important, are they not as culpable as if they had added what never existed? The whole history of the symptoms, and the singular important additions to the appearances on dissection, made for the first time at this distant period, are wholly to be put out of view. Whether the account they have delivered now, or the statement they delivered at Lancaster, be true, is nothing to me. My evidence could only apply to the latter, by which alone my inferences are to be examined.

The following is a concise account of the symptoms of Miss Burns's complaints, so far as they can be ascertained by the only witnesses, the cook

and housemaid; and, for the correctness of this account I refer to the trial, where they are detailed at greater length. These servants had only been a month in the house, had had no previous acquaintance with the deceased, and therefore were ignorant, in a great measure, of her general state of health. Miss Burns never appeared to them to be anyways indisposed until the morning of the twenty-third of March, when she appeared to be very ill, but did not complain. She took some breakfast. After breakfast had laid herself down upon the sofa—afterwards seemed to be in pain as she moved through the room, leaning upon the backs of the chairs. She complained of being thirsty, and directed some water gruel to be made for her, of which she drank, in the course of the day, according to the account of the house-maid, nigh three quarts; but the cook, who made the gruel, said it might be about a pint or a quart. She rejected the gruel from the stomach almost immediately—she vomited frequently during the day—What she vomited appeared to the housemaid to be, at first black, afterwards yellow or greenish. This account is reversed by the cook, who said that it appeared, at first yellow, and afterwards black. She lay quietly for the most part, without moving or complaining upon the sofa. The next morning, Thursday, she appeared

nearly in the same situation in which she had been the preceding evening. The sickness continued till towards evening, when it left her, and she could stir more about—She took only water-gruel this day, as she had done the day preceding. On Friday morning, the twenty-fifth, apperead to breathe with greater difficulty than before; but, in other respects, no difference was observed. She took gruel and some warm beer—She does not appear to have vomited what she took this morning. Miss B. expressed a wish for some Madeira wine; the house-maid was sent to fetch it; and on her return, found Miss Burns dead, *cowered* of a lump in the corner of the room, with her head erect, leaning against it. During her illness, both her understanding and her articulation do not seem to have been in the least injured, as she gave, 'till within a short time of her death, directions respecting the management of the family. Her complaints seem to have abated much from the evening preceding her death. That the irritability of her stomach had, in a great measure, been removed, is evident from the quantity of gruel and other liquids with which the stomach and intestines were filled. If there had been any considerable morbid irritation of this organ, such a great quantity of liquid would not have remained upon

it. She seems also to have been troubled with a diarrhœa.

The account which I have now given of the history of Miss B.'s complaints, is correctly as it was related before the Judge at Lancaster. The account which has been published by the gentlemen who have honoured my evidence with an examination, is very different from this, being descriptive of a much more violent disease. These gentlemen say that it is not easy to get a correct statement of the symptoms from persons not acquainted with medicine. But I think it may be presumed, that the awful impression made by her death, would induce the servants to consider the symptoms as more severe than they were in reality.

The body was opened on the Sunday following, about fifty hours after the death, by Mr. Hay, a Surgeon in Liverpool, in the presence of Dr. Gerard, Dr. Rutter, and Mr. Robinson, Mr. Hay's assistant.

Upon opening the cavity of the abdomen, some yellow coloured matter was found in the convolutions of the intestines. In drawing the stomach towards him, the surgeon discovered a hole, or præternatural opening in the anterior and inferior

portion of the stomach, about the extent of a crown piece, at the distance of about four inches from the Pylorus. The edges of this hole were pulpy, tender, and ragged, and the substance of the stomach all around, for the space of two inches, was in a destroyed state, allowing an easy passage to the fingers. The rest of the stomach was in a natural state, of a natural colour, and covered with the mucus which usually lines the internal surface of this organ. There was some slight peretonæal inflammation in different parts, but scarcely so much as to be called a disease. It was considerable upon the small, but scarcely observable on the large, intestines. The internal villous coat of the duodenum was slightly inflamed.—Upon cross-examination, Mr. Hay observed that he never examined a sounder subject in his life, excepting with respect to the hole in the stomach, and the circular margin of this hole.

The womb was found much larger than it is usually in the unimpregnated state. The Surgeon cut into it. The cavity was so large as to be capable of containing a whole quart of fluid. There was a circular ruff mark upon the fundus four inches and a half in diameter, which, he had no doubt, was the place from which a placenta had been recently detached. The vessels which he

supposed, served to nourish the child, were plainly discoverable. The *os uteri* was dilated. There was nothing in the womb, only a very small quantity of florid-coloured blood oozing out of some plainly discoverable vessels at the *fundus*. The other gentlemen agreed with Mr. Hay in this description of the appearances. They had not the least doubt, from the appearances which the womb exhibited, that it had recently parted with a child, and that this child had nearly reached its full period.

The fluid that was found in the intestines, which, from its resemblance to that of the stomach, they had no doubt had passed through the hole, was collected for chemical analysis. The fluid contained in the stomach, and that contained in the *duodenum*, were also collected, to be subjected to chemical examination.

These three different fluids were examined by Dr. Bostock, who has long been known to the world for the accuracy of his chemical knowledge. This chemist applied the most delicate tests, but could not discover the existence of any mineral poison. Dr. Bostock, however, maintained, that, from experiments which had been made upon dogs since this unhappy affair took place, and which will be

more particularly noticed afterwards, an animal may be killed by corrosive sublimate mercury in solution, without any remains of this substance being discoverable in the contents of the stomach after death. No part of the substance of the stomach was subjected to chemical analysis. The examination of the intestinal canal was not pursued further than the *duodenum;* neither was the *œsophagus* examined.

Miss Burns had been observed by some persons who saw her occasionally, to grow larger for some time previous to her death. But her most intimate friend, and indeed the only friend she had, declared she was as large twelve months before her death as she had been a few weeks before it—that she was uncommonly flat bosomed, and that, in every other part excepting the abdomen, she was not half the person she used to be—that she had not been as young women in health are for fourteen months before her death—that, at Miss Burns's request, she had consulted her mother about her, who recommended some medicine which had been of use to her (Mrs. Jones)—That Miss Burns was very subject to shortness of breath, and was pale faced. The commencement of her bad health this witness dated several years back, from the time Miss Burns had fallen out of a boat into the

water. Mrs. Barton, Mrs. Jones's mother, confirmed this statement, so far as she had been concerned.

Dr. Gerard, Dr. Bostock, and Mr. Hay, having been interrogated respecting the cause of the hole in the stomach, mentained that, not knowing any natural cause, nor any disease to which they could ascribe this hole, they believed that it must have been occasioned by some deleterious drug taken into the stomach; that this drug, in their opinion, was corrosive sublimate mercury in solution, and that, as this hole was a sufficient cause of death, they believed that the deceased had come to her death by poison.

These are the opinions which were unanimously supported by the medical witnesses on the part of the Crown. It appears that they had not maintained them with the same firmness before the Coroner, and that they there admitted that a difference of opinion might have existed respecting the causes of the hole in the stomach. But any doubts with which their minds might have been originally affected, seem to have been completely removed before their arrival at Lancaster:—these, in all probability, were banished by the result of the experiments upon the two dogs—experiments

which we shall have an opportunity of examining afterwards, and which will, no doubt, confer a high celebrity upon the authors of them. These experiments seem also to have relieved their minds from all doubts upon another point, namely, the kind of poison by which the hole was produced, by making it plain that it must have been corrosive sublimate mercury in solution.

In my examination, I supported opinions in many respects different from those maintained by the authors of the "Vindication." I contended that the hole and the destroyed appearance for nearly two inches on every side, could not be accounted for on the supposition of a deleterious drug taken into the stomach, arguing that the substance which possessed such deleterious properties as to occasion so extensive a destruction as was here observed on one part of the stomach, must have acted with great violence upon the surface of the stomach, guilet and intestines generally. This would especially happen with respect to the stomach, in consequence of the anxious tossing of the body accompanying great pain in that organ, and of the action of vomiting. The poison that is there supposed could not, in particular, act with intensity on one part of the stomach only, on account of its being so easily soluble. But the rest

of the stomach had every where a natural appearance, was uninflamed, and covered with the natural mucus of the organ. The authors of the "Vindication" argue that I am not correct when I state that all mineral poisons may be agitated from one part of the stomach to another: that, for instance, arsenic fixes upon the place which it first reaches. This objection requires explanation. Arsenic is only partly soluble in water—the portion soluble will be moved from one part of the stomach to another, after the manner here described, but that which is insoluble will at length subside, and adhere to a particular place. But the dispersion of these small insoluble particles is so general, that in cases where any very considerable quantity of arsenic has been taken, such as would be required for producing the destruction which this stomach exhibited, the stomach, gullet and intestines have been found inflammed, corroded and gangrenous throughout. The alimentary canal, in these cases, often exhibits a riddled appearance.

If the destruction, discovered in this stomach, had been occasioned by some deleterious drug, this effect must have been produced when the poison existed in the greatest quantity and concentration in the stomach. At the time of death

it had been washed away, so that not the least quantity of it remained, therefore this aperture would have existed sometime before death; and the liquids that had been taken into the stomach immediately before death, would have passed through this hole into the general cavity of the belly. But only a very small quantity was found in the convolutions of the intestines, while the stomach itself was full. The authors of the "Vindication" have endeavoured to explain away this objection, by supposing that the hole might not have actually taken place till after death, although the injury to the substance had. But if any part of the stomach had been, some time before death, in so tender a state as easily to admit a passage to the fingers, the action of vomiting, which, when violent, as is described by them to have been the case, in this instance, sometimes ruptures a sound stomach, must easily have ruptured the tender portion of this.

Upon the supposition that this hole had been occasioned by some mineral poison, this poison must have acted in one of two ways. It must have destroyed the texture of the stomach; by combining with its substance, and acting upon it as upon dead matter of the same kind; or

by exciting inflammation and gangrene. Upon the supposition that the injury was effected according to the first of these ways, by chemical combination, then the quantity of poison required to destroy the texture of a part upwards of six inches in diameter, must have been enormous. The poison, in this case, would have produced almost instantaneous death, and have been found in combination with the destroyed part of the stomach. Why was not the tender part of the stomach submitted to chemical examination, which must, in my opinion, have been decisive of the question whether the destruction had been occasioned by some corrosive drug, in the way supposed, or not?

The destruction could not have been occasioned by the poisonous drug exciting inflammation and gangrene; as in that case, the gangrenous part must either have been separated from the sound, which would have been easily discovered, or a part must have been in a state of high inflammation. But this was not the case. The gentlemen, indeed, admit, that the aperture could not have been occasioned by gangrene. Had this happened, it would not even have inferred the administration of poison, as the stomach is subject to inflammation and gangrene from other causes.

Had the aperture been occasioned by any acrid substance acting before death, blood vessels would necessarily have been corroded, and would have discharged blood, which would have been ejected by vomiting and stools. Vomiting and purging of blood are too remarkable to have been overlooked, had they occurred.

The symptoms of the disease, by which this lady was affected, were not those which we know, from the experience of mankind, are produced by the operation of an active poison, especially when administered in such quantity as to destroy any part of the substance of the stomach. Mahon, the elegant and intelligent author of the Medicine Legale, says, that corrosive sublimate, taken in such quantity as to produce death, kills, in a short time, after the most frightful convulsions, and enormous bloody and bilious vomitings and purgings.* The derangement of the system arising from the administration of arsenic, is nearly

* Le Sublimé, avalé a la dose de plus d'un ou deux grains, est un poison terrible qui tue promptement, apres d'affreuses convulsions, des vomissemens énormes, des dejectiones dyssenteriques et sanguines; enfin a peu près avec les memes symptomes qui quand on apris l'arsenic. A l'ouverture des cadavres, on trouve *egalement* l'æsophage, l'estomac et les Intestins inflammés et gangrenés.

Medicine Legale, de Mahon, p. 557.

the same with that excited by the use of corrosive sublimate. Excrutiating pains in the stomach, and bowels, inextinguishable thirst; reaching; and the instant rejection of whatever is swallowed; anxiety and intolerable anguish, expressed by moans and lamentations, which no sentiment of precaution could suppress; by restless agitation, and tossing of the body and limbs; hiccup; faintings; convulsions; failure of the voice; inarticulate speech; difficulty in swallowing; and aberration of mind, are among the symptoms which united, or in greater part, accompany the operation of an active mineral poison, given in a powerful dose.

Miss Burns, however, does not appear to have suffered any severe degree of pain. She was generally found by the servants lying upon the sofa quietly, and without complaining. She only once complained of pain, to any of them, during her illness. From the Thursday afternoon, the irritation of the stomach appears to have been completely removed. From that period she had no vomiting, reachings, nor pain in the bowels. That the strength of the stomach had been in a great degree recovered is proved beyond all doubt, by the quantity of gruel and warm beer which was found in it and in the intestines after death. Such a quantity of nutritive substance could not have

been kept by a stomach labouring under the effects of great irritation. The general strength, also, was recruited along with that of the stomach. She could stir more about. So far from being delirious, she appears to have had the most perfect recollection; she continued to give directions respecting the management of the house until the period of her death. Her speech and articulation do not appear to have been changed. The only symptoms which she had in common with those affecting persons destroyed by mineral poisons, were thirst, a vomiting of bilious matter and purging. These are the attendants, it is well known, of many diseases, and only indicate some irritation of the stomach and bowels, which may be excited by a thousand causes, acting either directly upon them, or by association in consequence of that sympathy that subsists between these viscera and every part of the frame. All the symptoms which attend the administration of poison, occur separately in many complaints. The symptoms above stated only constitute an argument in favour of poisoning, when they are found altogether or in greater part combined. The absence of them nearly all from this case, proves that Miss Burns could not have died from the administration of corrosive sublimate, nor of any deleterious drug.

A great deal has been inferred in support of the supposition that poison had been administered from the blackness of the matter vomited. In the first place there is a contradiction in the evidence on this head. The housemaid said that the matter vomited was first black and afterwards yellow or greenish :—the cook, on the other hand, describes it to have been at first greenish, mixed with yellow ; and afterwards becoming black. The dark colour might depend upon many things :—the gruel and beer which she drank might have given the matter rejected that appearance. It might have proceeded from the gall-bladder, liver, or pancreas; but it does not appear that the authors of the " Vindication" searched for the cause of this appearance, where it was most likely to have been found, in these *viscera*.

The general appearances of the carcass did not characterize a death by poison. The bodies of persons killed by poison run more rapidly into putrefaction than those destroyed, perhaps, by any other cause. In a very short time the skin of every part swells, and the features become disgustingly deformed. The stench of the body is intolerable. The flesh becomes soft, and is easily separated from the bones. None of these characters marked the carcass of Miss Burns.

There were no putrid appearances, nor any putrid smell.

Besides, corrosive sublimate mercury in solution is so nauseous a poison that no human being could be induced to take it in such quantity as to occasion death. The taste is a certain natural indication of its deadly qualities. No man that ever tasted corrosive sublimate mercury, even in a very weak solution, but must be convinced that it was a most dreadful poison.

If any mineral poison had been administered, it would, in all probability, have been detected by the analysis of those substances most likely to have contained it.

I therefore contended that, of the three great constituents of which the proof of poison consists, namely, the existence of poison in the alimentary canal, which is the strongest; the symptoms suitable to the administration of that poison; and the appearances which are exhibited by the body after death; not one was found to have existed in this case. The detection of poison in the body is the strongest, but by no means singly conclusive of a death being occasioned by poison. Poisonous matter may be taken to a certain extent without

occasioning death; and, in the mean time, death may have been produced by some other cause. In this case, though a small quantity of poison had been detected, nothing certain could have been inferred from that, because the water of which the gruel was made, not having been distilled, might have held in solution a small quantity of some poisonous material. The stomach, too, appears to have been washed out with common water, whereas they ought to have employed distilled water. If poison is not found, then the other two constituents of the proof should be complete indeed, before even the suspicion of poisoning should be excited in the mind of a physician. The authors of the "Vindication" say that the account of the symptoms is uncertain, not being given by a medical man. The gentlemen were therefore reduced to one class of the three constituents of the proof, namely, the appearances upon dissection; and how well they availed themselves of this class will afterwards appear. The appearances should have been well marked indeed, before any inference in support of so horrid a crime, could have been deduced from them.—But the appearances which bodies killed by poison usually exhibit, were nearly all absent. None of the three classes of things which constitute the proof of a death by poisoning, existed in

this case; and I repeat again what I advanced upon oath, that no cautious physician will ever affirm it to be his opinion that a death *must* have been occasioned by mineral poison, unless these three classes are found in combination.

But it will be contended that all my reasoning, however plausible, is merely hypothetical; or, as these gentlemen are pleased to call it, futile and fallacious; and must yield to the superior force of experiment. That an animal, they contend, may be killed by corrosive sublimate mercury in solution without the poison being discoverable in the contents of the stomach after death may certainly be inferred from experiments that were made upon two dogs. A grain and three quarters of corrosive sublimate mercury was dissolved in forty drops of water, and poured into the mouth of a little dog, who, after discharging a good deal of froth, vomiting milk which he had taken, and frequent discharges of black coloured excrement, died in the space, I think, of half a day. Two grains, in a solution, I suppose, of the same strength, were given to another dog:—(some of the solution, in this case, was spilled in giving it) it did not kill the dog: Next day the dose was repeated, and it killed the animal in the evening. The same symptoms attended in this

case as in the former, only this dog discharged some bloody froth. He took nothing all the day preceding his death. The stomachs of these two animals were examined, they were not found corroded, but red and inflamed, and corrugated. The contents of the stomachs were subjected to chemical analysis, but no corrosive sublimate was found.

Now I contend that there is a notorious deception in these two experiments. I maintain it to have been not only improbable but almost impossible that any of this corrosive sublimate could have reached the stomach of either of the dogs. Forty drops of liquid will scarcely moisten the palm of the hand. When the corrosive nature of such a strong solution of sublimate making a violent caustic is considered, any thinking man will be satisfied that it must have combined with the fleshy parts of the throat almost before it reached the top of the gullet. Besides the difficulty of introducing any thing of a nauseous corrosive nature into the stomach of a dog is well known, as the gullet and diaphragm of these animals by irritation of the throat are easily excited into spasmodic action. A man might as well search the Ocean for the stone he had thrown into the Mersey yesterday, as have searched the stomachs of these dogs

for any of the solution of corrosive sublimate which had been poured into their mouths. How, then, are the symptoms of vomiting, purging and black stools to be accounted for? By a violent affection of one part of the alimentary canal the whole of it is excited. Hence by the affection of the top of the gullet, vomiting and purging would naturally ensue. Black is frequently the natural colour of the excrement of these animals. Inflammation would, without doubt, be excited to a certain extent along the whole course of the alimentary canal.

Admitting even the possibility that any portion of this solution could have been received into the stomach of the dog, there are circumstances from which it may be inferred that none of it ever reached it. Unquenchable thirst is an uniform concomitant to the administration of mineral poisons to human creatures, and I believe also to all animals. But these dogs so far from being thirsty, even refused to drink. The catching of the jaw, and the bloody froth demonstrate to a certainty the violent affection of the parts about the throat. If these accurate experimentalists had examined the gullet and throat, they would have discovered by its effects the place the destructive corrosive sublimate had occu-

pied, and ascertained the reason why none of it was found in the contents of the stomach, nor any erosion made upon its coats.

These experiments, to repeat again their own language, futile and fallacious experiments, constitute the foundation upon which all their reasoning respecting poison is founded, experiments which contradict the knowledge of mankind upon this subject; experiments made too on the animal creation which differ so widely in their habits and constitution from the human. Failing to discover among the numerous histories of poisoning which unfortunately disgrace the records of our species, a case which bore any resemblance to the one in question, they seem to have been determined to make one. They ransacked the vegetable and mineral kingdoms for poisons of every quality and power, and subjected a number of helpless animals to the severest tortures which it is possible for animated nature to sustain; at length, after many disappointments, their drooping hopes were revived, and their wavering purposes confirmed by the two experiments above recorded, experiments which will no doubt confer a lasting fame upon the authors of the "Vindication." It is worthy of notice, that corrosive sublimate in solution is the poison that is fixed upon. Why in

solution? Because in any other form in which it had been administered, it had been found in the contents of the stomach, and had corroded and blistered its coats. Yet it was upon the faith of these two experiments, that the medical evidences for the crown came forward, and swore to the cause of the death of one person, involving in the result the life of another.

Poisoning is the basest, most cowardly and most cruel, of all kinds of murder; and evinces an extreme depravity in the heart that can be guilty of it. The grounds, therefore, upon which such an enormous crime, so revolting to human nature, are to be founded, ought to be of known stability, and not the deceptive quicksand surface of a day's formation, over which light and feathery beings may pass with safety, but which will be avoided by the manly step of the cautious and the wise.

What then was the cause of the hole in this person's stomach, if it was not produced by poison? Though we were not able to account for the appearance, and though there had never existed an example of such an appearance, it would be in the highest degree unphilosophical to ascribe it, in this case, to any particular cause, as poison. Because, say these gentlemen, we cannot account

for this appearance from any known causes, among which they must include poison; they nevertheless ascribe it to a cause from which they could not account for it. This is certianly a beautiful specimen of the logic of these gentlemen; but others, equally excellent, will be found in the sequel.

But there are many instances of holes, similar in character to this, having been found in the stomachs of persons after death, who could not have been suspected of having taken poison. Bonnetus, Lieutaud, Morgagni, Mr. John Hunter, and indeed, all those persons who have been much conversant in morbid dissection, afford abundant instances of this kind. These appearances of destruction have not only been found in the stomach, but in various other parts of the body; the large veins have often been found perforated, likewise the intestines; and various organs, as the spleen, pancreas and diaphragm, have been found in part consumed. In consequence of the frequency of such occurrences, which could not be ascribed to any disease, and of their having some resemblance to the effects of poison, there arose a division of poisons into external and internal. By the external were meant such as were taken in by the mouth; by the internal, those which had been engendered by the body itself. The secre-

tions of different organs which, in the usual state, are subservient to the purposes of health, were supposed to become, in certain cachectic and and putrid states of the body, so changed as to be endowed with qualities of a very deleterious nature. The secretions of the liver, pancreas, stomach, intestines, and kidneys, have been known to possess such acrimony, as not only to destroy animal substances, but even metals. Hence the appellation of bilis æruginosa, or bile that could destroy brass. On this account the celebrated Morgagni, who was much conversant in the examination of bodies supposed to have come to their death by violent means, has advised physicians, in cases where previous disease had existed, to be cautious, lest they should ascribe such appearances to an external cause, as they might, in all probability, arise from the internal poison of the body.*

* Les matieres bilieuses produisent souvent des ravages terribles en peu de tems. Les trousse galant *(cholera morbus)* Les dysenteries, les differentes especes de cachexies, et *certaines morts subites*, pourroient souvent donner lieu a des procedures criminelles qui par le consours de quelques circonstances singulieres diviendroient funestes á des innocens.

Mahon. p. 288 *vol.* 2.

Consult Hoffman de Veneno Corporis humani.

Lieutaud is very full upon this subject, and has given many histories of dissections in which holes in the stomach were found. In some of these histories the cause of the hole was, without doubt, some disease of long duration. But an attentive consideration of them will convince any man that, in general, the holes he describes could not be accounted for from any disease, nor could poison have been suspected. In many of his cases the disease had only been of a few hours standing: nevertheless the stomach was found much destroyed, the spleen and pancreas often nearly consumed, and other extensive marks of destruction, which no disease could have produced in so short a period. As it is in general only the bodies of persons who have died under singular circumstances that are opened and particularly examined, and as there always existed some disease by which the death was occasioned, these holes were either considered as the effect of disease, and the cause of the death, of which, in reality, they were only the consequence. In some of the instances given by Lieutaud, the stomach was perforated in different places. It is not probable that any disease could have produced these perforations at the same time. He generally describes these perforations by saying that the stomach was putrid and perforated; at one time he says that the hole

was, without doubt, the effect of the *bilis ærugi-nosa*, a species of the internal poison,

The late celebrated Mr. John Hunter, having observed holes of a description similar to this which was found in the stomach of Miss Burns, in the stomachs of persons who were in perfect health immediately before death, and who could not have been suspected to have taken any deleterious drug into the stomach, supposed, as the stomach had the appearance of a substance half digested, that this phenomenon might be accounted for from the action of the gastric juice after the destruction of the vital principle. The gentlemen who opened the body in the evidence they gave at Lancaster, and now in their publication, in defence of that evidence, have said that they had in contemplation the gastric juice, but that upon a consideration of the circumstances, and a comparison with the appearances in Mr. Hunter's cases, it would not apply in this instance.

The first objection to the supposition of the gastric juice having this effect is, that it only acted in cases of sudden death from a violent cause, when the gastric juice was in abundance and in proper quality. With respect to the suddenness of the deaths they agree with the present,

as that of Miss Burns was awfully sudden. When the stomach is under considerable irritation, as was the case with that of Miss Burns, the secretion of that organ is in greater abundance than usual, and more acrimonious. According to the opinion, then, of the experienced Morgagni, the secretions of the stomach and different organs would, in this case, be more likely to produce destructive effects, than in cases where death had instantly succeeded perfect health.

The second objection they urge against the supposition of the gastric juice, is that, in these cases, the neighbouring viscera, as the spleen, and the diaphragm have been generally affected. It is only in one of the three cases of Mr. Hunter, that the spleen, or the diaphragm, or any other part, except the stomach, is said to have been affected. But admitting that they had, it certainly appears a singular mode of reasoning, and exhibits another excellent specimen of these gentlemen's logic, to contend that because a cause had produced a greater effect upon certain occasions, it could not therefore produce a less effect upon another occasion, and under a change of circumstances.

The third objection is, that Miss Burns having drank, and frequently rejected large quantities of

fluid, the gastric juice must have been so much diluted as to be deprived of its solvent qualities. But one of the three cases of Mr. Hunter at least, could as little be accounted for, from the effects of the gastric juice, if any influence is to be allowed to this objection, as that in question. For the man who had been killed outright by a poker, immediately before death had eaten a plentiful supper, consisting of meat, bread, beer and cheese. Therefore, in this case, the gastric juice must have been as much diluted as in the case in question.

Fourthly, The injury was not in the lowest and most dependant part of the stomach. Neither was it in Mr. Hunter's cases. The injury was in the large curvature adjacent to the spleen.

The fifth objection is, that the appearances in Miss Burns's stomach did not correspond with the effects of the gastric juice upon the stomach, as described by Mr. John Hunter. This objection certainly surprizes me not a little. The appearances described by Mr. Hunter were, almost word for word, the same with those described by the gentlemen in their evidence at Lancaster, in this case. The edges of the hole, say they, were pulpy, tender, ragged and broken down. The edges of the holes in Mr. Hunter's cases were

pulpy, tender, and ragged. The parts about the hole had the appearance of being acted upon by the caustic alkali; and, as I mentioned in evidence, the parts about the aperture in this stomach were described to me by Dr. Gerard, as having the appearance of being acted upon by the caustic alkali. The only difference seems to be, that the blood could be squeezed out of the ends of the vessels in Mr. Hunter's cases; but not in this. But this difference is purely accidental, and arises from the following cause: The part of the stomach which Mr. Hunter observed to be perforated, was in the large curvature opposite to the spleen. Now, it is well known to all anatomists, that the vessels called vasa brevia pass from the spleen to the stomach and spread on its surface at this part. The blood-vessels at this part are large and numerous. When the stomach is full, as was the case in these instances, these vessels are known to be more distended with blood than when the stomach is empty. This accounts for the quantity of blood that could be squeezed out of the divided vessels in the cases observed by Mr. Hunter. But in this instance the perforation was much nearer the pilorus on the same curvature where it is known the blood-vessels of the stomach are very small. Hence little or no blood could be squeezed out of the ends of vessels.

The sixth and last reason is that the gastric juice affords no explanation of the inflammatory appearances in the stomach and duodenum. But according to the evidence of Mr. Hay, the Surgeon who opened the body, there was no inflammation in the stomach, and the villous coat of the duodenum was only slightly inflamed. This description was not contradicted by Dr. Gerard, nor by Dr. Bostock. But it is well known to all persons the least conversant with morbid dissection, that inflammatory appearances are found in almost every body to nearly as great an extent as they are even related now to have been by the authors of the "Vindication." It must be recollected that Miss Burns laboured under a disease of considerable severity effecting particularly the stomach and bowels. Some inflammation then was to have been expected in these parts.

We have here, then, six distinctions without a difference.

The authors of the "Vindication" have all along considered Mr. Hunter's hypothesis respecting the solvent powers of the gastric juice after death, as an established truth, and are more inclined to dispute his facts than to imagine that his hypothesis could be erroneous. They dwell upon

the inapplicability of Mr. Hunter's theory, in order, it would appear, to get clear of his facts.—Dr. Gerard observed, that Mr. Hunter was the first and only person who had observed this effect of the gastric juice; thereby insinuating that Mr. Hunter's descriptions were likely to be erroneous. But I must tell Dr. Gerard that Mr. Hunter is neither the first nor the last anatomist who has observed holes in the stomach that must have occurred after death, but he is the first who ascribed them to that cause. The truth is, as both Dr. Gerard and Dr. Bostock must have well known from the attention they had paid to the experiments of Spallanzani, and from their knowledge of the chemical properties of the gastric fluid, that such holes as those described by Mr. Hunter could not be accounted for from the effect of this fluid. I am accused of arrogance in having disputed the opinions of Mr. Hunter. I reverence the talents of Mr. Hunter as much as any of the authors of the "Vindication," and perhaps have studied his works with as much care and satisfaction. But I should ill imitate the illustrious example which that great man has set of a mind at all times disposed to think for itself, and that knew well how to disentangle itself from the servile bonds of authority, if I did not canvass his doctrines with freedom, and judge of their truth according to the

dictates of my own reason. Mr. Hunter was not perfect. He was the most accurate observer, and faithful narrator of facts that medicine, or perhaps any other science can boast of; and has thereby provided a plentiful supply of materials; but he was not equally successful when he attempted to draw general inferences from those facts. He possessed a most penetrating genius and an enviable enthusiasm for knowledge; but he was unfortunate in the want of an early education; a want which the greatest talents and industry have scarcely ever been known completely to supply.

If these holes found in stomachs after death are not produced by the gastric juice, what is the cause of them? In my evidence I attempted an explanation of these phenomena on a different principle from the gastric fluid. On account of the length of the detail which would have been required to do justice to my sentiments on this subject, and which was inadmissible in a Court of Justice; and on account of the disadvantages under which a medical man labours on being examined by gentlemen who cannot be supposed to be fully acquainted with the subject; though in this respect I had little reason to complain; my explanation of the cause of these appearances as given in evidence is necessarily imperfect. The perforations

in the stomach observed by Mr. Hunter, and that discovered in the stomach of Miss Burns, are I consider in a great measure connected with sudden death. From the very valuable and most ingenious experiments of Sir John Pringle,* and Dr. M'Bride,† it appears that water at the temperature of 90 degrees will dissolve animal substances in fourteen hours. This septic process will take place to a greater degree if calcareous earth or common salt in a small proportion, about the proportion usually taken with our food, be mixed with it.

The solution is favored by the exposure of the mixture to confined foul air. Heat, moisture, and confined air, produce a rapid solution of animal substances. The component parts of the living fibres are held together by a different affinity from that by which the ingredients of that fibre would be held in dead matter. Hence the organization of animal substances cannot long subsist in the ordinary circumstances after death. The vital principle is the cause why animal substances remain differently combined from the ingredients which compose these substances in dead matter, and

* Pringle on the Diseases of Seamen.

† M'Bride's Experimental Essays.

supports organization. As soon, therefore, as the vital principle is withdrawn, the principles which compose the animal structure have a tendency to follow their natural affinities, and a certain process called putrefaction, or, more properly, animal fermentation, commences. This fermentation is hastened by the presence of the materials I have mentioned, heat, moisture and confined air. In the ordinary gradual modes of death, the vital principle is not extinguished, until the heat of the body is reduced nearly to the temparature of the surrounding objects. Therefore one of the principal things required for the solution of animal substances, namely heat, is wanting: but in cases of sudden death, the vital principle is destroyed, while the heat of the body is still at, or above, the temperature of 96 degrees. There existed, then, in the stomach of this person, at the period of her death, a high temperature, a quantity of gruel which had been taken warm, and in which the common proportion of salt had been probably dissolved, and confined air. The animal fermentation, therefore, would instantly commence in the stomach. The body lay from eleven till half past one o'clock in a small parlour, in which there had been kept a constant fire. It was afterwards removed to a room over the parlour. The liquid with which the stomach was filled, was of a slimy adhesive

nature, and had been taken warm. As this liquid would very slowly part with its heat, a high temperature would be preserved for a longer time in the stomach, the center of the body, than in any other part. When the animal fermentation has fairly commenced in any part, additional heat is engendered by that very process. Dr. Monroe having thrust his hand into a putrid whale found it warm. In these circumstances, then, the substance of the stomach, before the heat was reduced to a low temperature, must have undergone a certain degree of solution. But it may be asked, why was not the stomach all equally affected, and only partially. The reason of this appears to have been as follows. The liver pressing upon one end of the stomach, and the spleen on the other, the fluid contents would occupy the middle of the viscus. As the cold particles of the fluid would fall to the most dependant part, as the body then lay, the upper surface, upon which the anterior portion of the stomach rested, would retain the heat longest. The animal fermentation, therefore, would advance to the greatest extent upon that portion of the stomach, the anterior and middle portion, which rested upon the fluid contents of the viscus. Hence, the destruction of one part of the stomach is accounted for, while the other parts of the body may remain sound. But why, it

may be asked, did not this happen in the intestines, which also contained the same fluid? The column of fluid contained in them, was less than that contained in the stomach; therefore the heat would be sooner dissipated.

But an objection, apparently strong, may be urged against this explanation: There was no putrefactive smell perceived when the stomach was opened; on the contrary, there was a sour smell. In answer to this objection, we have to observe, that there was a vegetable matter in the stomach. From the experiments of the same ingenious Physician above-mentioned, Sir John Pringle, it appears that decoctions of flour, oats, and barley do not for some time impede the progress of the animal fermentation, in a mixture of the temperature stated, but that, at length, the vegetable fermentation commences, checks the septic process, and sweetens the putrid effluvia. At the time this body was opened, the vegetable fermentation had commenced. had stopped the septic process, and had even produced a sour smell.*

* The authors of the "Vindication" have argued, that I have misunderstood Sir John Pringle, and that I have confounded putrefaction with chemical solution, two things completely different. This is a correction which I do not under-

It is remarkable that many of the cases mentioned in Lieutaud, of holes in the stomach, were of persons who died from short and violent illnesses.* The instances particularly mentioned by Mr. Hunter, of holes found in the stomach were cases of sudden death. The first time he observed the stomach perforated, was in a man who had been killed outright, by a blow on the head with a poker. The stomach was perforated at its large end, and the contents of it were found in the general cavity of the belly, in contact with the liver, spleen, &c. The second case was also that of a man who died almost instantly, from a fracture of the skull. Here not only the stomach was consumed, but the adjacent side of the spleen; the diaphragm was perforated; and the contents of the stomach were found in the chest, in contact with the lungs. The third and last case which he

stand. The decomposition of animal substances by water at a certain temperature, whether it be termed putrefaction or animal fermentation is as much a chemical solution as sugar dissolved in water. How common salt acts in hastening this decomposition is not clearly understood. I was certainly not a little surprised at this criticism coming from a class of men, one of whom is a professed Chemist; but this proves that a man may be skilled in all the practical details of chemistry without understanding its principles as a science.

* Lieutaud Historia Anatomico-Medica. vol. 1, p. 35, 36, 37, 38.

particularly mentions, is that of a soldier who had been executed. Mr. Hunter, however, describes apertures appearing in the stomach upon dissection, as a very frequent occurrence. He further says that he found few stomachs which were not, to a certain degree, digested at their large end,* using the word digested in reference to his peculiar theory. And it is curious to observe with what care the gentlemen who opened the body avoid the use of this word in application to the parts surrounding the hole in this case: "It was not," says Mr. Hay, "a *digestion*, but a *destruction*."

It is, however, by no means to be inferred that holes in the stomach will occur in every case of sudden death. If the stomach be empty at the time of death, then one of the particulars required for the speedy destruction of organization is wanting, at least in such quantity as to prevent the rapid dissipation of the heat. If the weather be cold, and the body placed in a cold exposure, this effect will be prevented, even if other circumstances should be favourable.

The application of these principles will enable us to explain many curious phenomena of which

* Philos. Transact. vol. 62, p. 447.

perhaps no satisfactory account has hitherto been given. It is well known that the blood of persons who die suddenly of apoplexy ; of epilepsy ; from blows on the stomach and head ; and from suffocation, does not coagulate. The blood of animals which die in the chase does not coagulate.* The cause of this phenomenon appears to be in all these instances the same, the destruction of the vital principle while the temperature of the body is still at or above the standard of health. It is well known that the blood does not coagulate until it is reduced to a certain degree of cold. Now a considerable time will elapse before the blood of a person who dies suddenly will be reduced to the coagulating standard. In the mean time, heat, which resists the coagulation, favours the animal fermentation, and destroys, if I may be allowed the expression, the organization of the blood, upon which its coagulating property depends.

The carcasses of persons who die of violent and sudden deaths, and who die of poison and putrid diseases, pass more rapidly, under the same circumstances, into a state of putrefaction, than of those persons who are cut off gradually by other diseases.

* Leber's Anatomy by Vaughan.

The reason why the bodies of persons who die suddenly pass rapidly into a state of putrefaction, is easily deducible from what has been said respecting the cause of the blood, in these cases, not coagulating.

The reason why the blood of persons who die of poison and of putrid diseases does not coagulate, and why their carcasses pass more rapidly than others into putrefaction, seems to be as follows:

It is evident that the small quantity of poison that is taken into the body cannot have any effect directly upon the mass of fluids. It appears most probable that poison produces the phenomena we have mentioned, by its influence upon the nervous system. It may, through this, be supposed to affect the vital principle in a peculiar manner, and, without extinguishing it, to deprive it of its peculiar properties. Now, one of the properties of this principle is to resist putrefaction;—may not, then, poison deprive the vital principle of its power of resisting putrefaction to a certain degree, while the heat of the body remains at the ordinary standard; and thus, before death takes place, the putrid ferment have considerably advanced among the fluids? In putrid fevers, it would appear from the very successful practice recommended by

Dr. Hamilton, that the existence and continuance of the disease depend, in a great degree, on the presence of an animal poison in the alimentary canal. This matter may be supposed to affect the vital principle in the same manner that the external poison has been alledged to do, and that therefore the septic process advances in the body to a considerable extent, before the extinction of life.

But to return: The authors of the "Vindication" wish it to appear, that on the question of poison, there existed some trifling difference of opinion between them and me, but that we were not directly opposed on that head. But I contend that it was on the subject of poisoning that our opinions were most directly contrary. Dr. Gerard and Dr. Bostock swore, that, in their opinion, the hole in the stomach must have been occasioned by some deleterious drug taken into it. Mr. Hay professed more charity, but was at least equally positive. "It must," says he, "have been occasioned by some deleterious drug taken into the stomach." Could they have asserted a more decided opinion, even though they had found arsenic in the stomach, only substituting the word arsenic for some deleterious drug. The question of poisoning was, with respect to the object of the trial, by far the most important. Though it had been certainly

ascertained that a child had been recently born, yet this circumftance could have had no effect upon the general result of the trial. It could only have operated as a strong presumption that the deceased had come to her death by poison. But no presumption, however violent, could have had the least influence against the clear and decisive proofs of the contrary, which I advanced, and which carried conviction to the breast of every reasonable and candid man. Supposing I had not said a word respecting the pregnancy, the result of the trial must have been the same. We are referred in proof of their having doubts respecting the poisoning, to a statement they laid before the coroner. We are marched from the coroner to Lancaster, from Lancaster to the coroner, without the least ceremony, and as suits their own convenience. But what have I, or has any man, to do with what they said before the coroner. It is worthy of notice, however, in this case, as it will give some information respecting the progress of their opinions. Taking, say they, all the circumstances of the case into consideration—Here we discover the foundation of all their errors. What, in the name of God, had they to do with circumstances? If circumstances were permitted to have any influence upon their opinions, they became at once the judges of the accused, not the witnesses of simple

facts. When called upon in cases of such awful responsibility, as those of deciding upon the causes of the death of one person, involving the life of another, we ought to abstract our minds from every other consideration, except the medical case. We have no right to form expectations, nor to entertain suspicions. We have nothing to do with circumstances, nor presumptions, nor with character. We ought to confine our thoughts still more. We have no right to allow the appearances of a distinct nature which may present themselves in one part of the body, to have any influence in the formation of our opinions, of the cause of the appearances in another. For instance, in the present case, these gentlemen ought not to have allowed the state of the womb, to have had any influence upon their judgment respecting the hole in the stomach. The question of poisoning is independent of the state of the womb, and ought to stand upon its own grounds. Neither ought the hole in the stomach to have had any influence upon them, in forming their opinions of the pregnancy. They are indipendent questions. I would ask these gentlemen whether having found upon dissection a hole in the stomach of a person who could not have been suspected of having taken poison, they would then have given it as their opinion, that it had

been occasioned by some deleterious drug taken into the stomach?

Had these gentlemen attended less to circumstances and more to their proper business, the result would not have been so discreditable to them as it is to-day. For I contend that from the imperfect and most censurably deficient examination of the body, they had, in point of law and justice, no right to give any opinion respecting the causes of this Lady's death. For, supposing they had found in the stomach what might have been conceived a sufficient cause of death, how could they tell whether some other cause might not have existed elsewhere, to which this was subsequent, or of which it was an effect. But though her death was awfully sudden, they never examined the head, the fountain of life, and the most abundant source of sudden death. This neglect is the more remarkable, as the rupture of a blood vessel in the head, and many affections of the brain, might have produced the very symptoms, frequent bilious vomiting, with which she was affected. Mr. Bell, in his excellent Treatise on Diseases of the Head, relates the case of a lady who died in consequence of the rupture of a blood-vessel in the brain, from a slight false step, in which case the symptoms

were almost exactly the same as in this.* Considering that the most marked symptom of the disease by which she was affected immediately before death was shortness of breath, was it not most natural to have examined the organs of respiration? Yet the thorax was not opened. The heart, after the brain, is the most important of all the viscera, and a fruitful source of sudden deaths——Yet they did not examine the heart. Though the abundant secretion of bile and its altered appearance would, to any considerate mind, have suggested the idea of a diseased state of the liver or pancreas,—yet it does not appear that they had examined any of these viscera. On the continent of Europe, where morbid dissection is more frequent than in Great Britain, and where the laws of medical jurisprudence are better understood and observed, it is regarded as a fundamental maxim, that any conclusions, drawn from a partial examination of a body, are illegal and ought to be void. It was fully in the power of the counsellors on the part of the defence to have stated a legal objection, which no Court could have over-ruled, to the evidence of the gentlemen who opened the body. They had no more right to give an opinion respecting the cause of Miss Burns's

* Bell on the Diseases of the Head.

death, than the most illiterate person in Court. They had not availed themselves of the opportunities of ascertaining the grounds upon which a cautious correct opinion could have been founded.*

As an apology for these omissions, Dr. Gerard observed that, fully expecting to find poison in the contents of the stomach, (charitable expectation!) they did not think it necessary to proceed further. But though their expectations were disappointed in this, as in other instances, this did not diminish their belief that poison had been the occasion of her death. The experiments upon the two dogs, experiments which certainly deserve to be commemorated, enabled them to get clear of this trifling difficulty.

The authors of the "Vindication" appear very anxious to withdraw the public attention from the

* On Pourroit meme soutenir qu'une ouverture de cadavre, dans laquelle on auroit negligé ce precepte (ouverture de trois cavitées du Corps) devroit etre declarée non-legale et de nul effet. *Medicine legale, p.* 237.

Tulpius has justly observed: "Abditorum morborum causa haud satis fuerit inquisivesse in naturam vulneris, nisi simul perscruteris *corpus universum*, ne inconsiderate adseveres quemquam subiisse speciem ejus ut occisi, quem mors sua peremit."

question of poisoning, and to fix it exclusively upon the pregnancy, as if that was the only important part of the case. They have not shewn any activity to get signatures in confirmation of their opinions on that head. When they came to the determination of supporting their opinions, not by argument, for that they knew to be impossible, but by authorities, such a degree of fairness might have been expected of them, that they would have submitted the whole case for consideration. But when Mr. Hay went to London, in his hurry, he left the stomach behind him. Their reason for that, they pretend to be, as has been already observed, that we were directly at issue with respect to the pregnancy; whereas, with respect to the poisoning, there was room for an innocent difference of opinion. But, in reality, we were more directly at variance in the case of poisoning than in that of pregnancy. Let it not be supposed that I mention this from any apprehension that my opinions respecting the pregnancy cannot be maintained; on the contrary, they remain unaltered. But I wish to point out the dexterity and skill with which they have contrived to raise the importance of one part of the question, where they conceive themselves strong, by sinking the other, by far the most important part, where they know they cannot defend themselves.

We now come to the second grand head of the examination, "Did the womb afford sufficient proof that it had recently parted with a child?"—Here is the tug of war. I have hitherto, single-handed, had to contend with four redoubted knights. But a whole host of new foes have sprung up against me, clad in complete armour, and of furious aspect, all of a sudden, like the warlike produce of the venomous fangs of the Dragon monster, still preserving in their transformation, the murderous qualities of their parentage. My opponents knowing this to be the weak part of the fortress, have like skilful generals collected all their forces to this point, expecting to take it by storm. But when I consider the character of these new assailants, I feel the fears which the first view of their numbers had inspired change into renewed courage; perceiving that like the numerous followers of an Eastern army, they will be found an incumbrance, not a succour, to their friends, on the day of battle.

The authors of the "Vindication" contend that the womb afforded the most certain proof of recent delivery, and that they were as convinced of it as if they had seen the child born. Upon my examination, I argued, that there were appearances which being maturely considered led

my mind to entertain doubts of it. These appearances were chiefly the very distended state of the womb; its lax and bag-like form; the great space it would encompass in a state of expansion; together with the extent of the mark to which a Placenta was supposed to have been attached.—To these may be added, the state of the mammæ and the previous history of Miss Burns's complaints.

That my argument upon this subject may be more clearly understood, it will be proper that I should enter into a little detail.—In pregnancy the womb assumes a globular form: the child is connected to it by a cord, which at one end issues out of the naval of the child, and which is connected by the other to the internal surface of the womb, by means of a cake-like substance called the Placenta. Numerous blood-vessels enlarging according to the growth of the child, pass from the womb to the Placenta, after a peculiar manner not necessary to be described. If in the advanced stages of pregnancy, the Placenta be torn or separated from the womb, continuing in the same state of dilatation, a great hæmorrhage would take place from the divided vessels, terminating in the death of the mother. To prevent such an occurrence, nature has instituted a particular process.

At the full period of gestation, or from particular circumstances at any period, the womb with the asssistance of the abdominal muscles and diaphragm, contracting, first expells the child, and continuing to contract permanently, at last expels the after-birth. The area of the place upon the womb to which the Placenta had been attached, becoming by this process so much less than the face of the placenta which does not contract, the connecting vessels are as it were cut through; and the placenta is in this manner separated from its attachmeut to the womb. The transverse section of the divided blood vessels on that part of the womb which had thrown off the Placenta being contracted in proportion to the area of this part of the furface of the womb, these vessels upon a sufficient contraction of this organ are mechanically closed and pour out little blood.

In those cases in which the loss of blood is soon stopped, the dimenisons of the womb remain for some time larger than they had been before impregnation. From the dissections of women who have died two or three days after delivery, from other causes than the loss of blood; the womb has been found to vary in size from that of the closed hand to that of the head of a child of two

years old.* In these cases the difference of the external dimensions arises from the difference in the thickness of the parietes, not from any considerable difference in the cavity. Accordingly the parietes have been observed to vary in thickness from two to three inches, which will make a diameter of solid womb of from four to six inches. Unless some displacement of the materials of which the womb is composed, took place; it is plain that during its contraction the thickness of the walls would increase inversely, as the periphery diminished. But during this process, blood and lymph are squeezed out of the vessels which with the fluids they contain constitute a great share of the substance of an impregnated womb. The difference in the thickness of the walls between two wombs after delivery, will arise chiefly from the diminution of the cavity of the vessels belonging to them containing blood and lymph. It is evident, therefore, that the cavity of the womb may be contracted so as that its opposing internal surfaces may be firmly pressed against each other long before the process of contraction be completely finished; or less, ambiguously, long before the thickness of the parietes be reduced to their dimensions before impregnation.

* Vide Sepulchretum Bonneti. Morgagni de Causis et Sedibus Morborum. Hamilton.

It appears, then, other things being equal, that the loss of blood after the separation of a Placenta will be in proportion to the extent of the mark to which the Placenta had been attached. Although the womb may not have undergone that degree of contraction by which the vessels on the part from which the Placenta had been detached, are mechanically shut; the hæmorrhage may be stopped, and life saved, by clots forming and plugging up the vessels, in case of a languid circulation from exhaustion.

To apply these observations to the case in question. The womb was not certainly contracted to that degree necessary to shut the mouths of the blood-vessels opened by the separation of a Placenta. It was capable of containing a whole quart of fluid. The walls were only half an inch in thickness. It could not, therefore, have undergone within a short period any considerable degree of contraction. The place of the supposed attachment of a Placenta was fully four inches and a half in diameter,* nearly the diameter of a Placenta at the full period of gestation, which, according to Denman, is about six inches. The

* I now speak of the dimensions given by the authors of the "Vindication."

bore of the vessels, upon the supposition of the removal of a Placenta, must have been so large that unless a very great additional contraction had taken place, death, from loss of blood, must soon have been the consequence; and the hæmorrhage must certainly have continued until either a more perfect contraction or death had ensued.

To be fully satisfied of the truth of this conclusion, we have only to consider what takes place in cases of abortion, during the third month of pregnancy. At that period the ovum is not larger than a common egg, and the womb dilated only to the extent necessary to contain it. Even in this state, if a part of the Placenta only be separated from the womb, floodings bringing the mother almost to the very point of death, frequently occur. If then such extensive floodings occur when the womb is in so contracted a state, and when the vessels must have been so small, how much greater floodings would necessarily ensue in this instance when the womb was capable of containing a quart of fluid, and when the bore of the vessels must have been enlarged in proportion to the extent of the womb?

Supposing a Placenta had been recently detached from the womb in question, and supposing

it to continue in this dilated state; was I not warranted in declaring that a flooding must have prevailed; and that this flooding must have continued to the death of the mother, or until the formation of coagula; and conversely, if no flooding had taken place, nor coagulated matter formed to plug up the vessels, the same state of the womb being supposed, that a Placenta could not have been recently detached? Whether a flooding, continuing, as it must have done, to her death, had prevailed, or whether coagula had plugged the vessels, it was not for me to say. If any credit is due to the proper evidence, none of these could have happened. A very small quantity of florid coloured blood was found oozing out of some vessels at the fundus of the womb when examined by Mr. Hay. This was to have been expected without either the separation of a Placenta, or the existence of menstruation. At the time she was discovered dead, her cloaths, which had not been changed, were scarcely stained with blood, nor was there a spot of blood in any part of the room.

It seems that Mr. Hay at first entertained the opinion, no doubt from the state of the dilatation of the womb, that Miss Burns must have died of a flooding; and gave it as his opinion, upon oath, before the Coroner, that this must have been the

cause of her death. But it was certainly in Mr. Hay's power to have ascertained whether she had died of a flooding or not; and since he entertained that opinion, it was his duty to have availed himself of the opportunity. Heister relates that a woman who had carried twins was delivered of one of them, and died of a flooding before the birth of the other. This celebrated anatomist opened the body of the mother and of the child that remained in the womb, and found the heart and veins of both of them empty of blood. It is well known that women in this situation will part with more blood before they die, than can be lost, perhaps, without death, in any other circumstances. This fact must have been known to Mr. Hay and his colleagues. He acted, therefore, with culpable neglect, in not having examined the heart and veins of the deceased. From the days of Hypocrates to the present time, there never was a more deficient, unprofessional dissection, on which any important consequences depended, than that of the body of this lady.

The reasoning which I have advanced will, I confess, only apply to the case of a child who had been alive either at, or at no very distant period before birth. If the child had been long dead before its birth, a very material change might have

been effected in the state of some things, which I confess I did not contemplate at the time I gave my evidence, and which the authors of the "Vindication" do not seem to have known. Soon after my return from Lancaster, when arguing this affair with my friend, Mr. M'Culloch; this gentleman stated it as an objection to my argument, that a child which had been long dead might be born without either a mortal flooding occurring, or the womb being more contracted than that in question. I immediately perceived and acknowledged the force of the objection. If the child had died some weeks before its birth, the Placenta becoming also in time, dead; that action would take place between the womb and the Placenta, which usually takes place between living and dead matter; and the Placenta would be separated from the womb in the same manner that a mortified part is separated from a living. In this case, at the time of birth, there would have been no open vessels upon the internal surface of the womb; the mark of the attachment of a Placenta scarcely, if at all, perceptible; and, in my opinion, any mark that would have been left would not have been rough, but smooth, as it would have been covered with a new cuticle. Though, therefore, the womb had remained in this state of dilatation at the time of

the birth of the child, no blood would have been lost.

If this state of the case be supposed, it is evident that the rough mark at the bottom of the womb could not have been a Placental mark. It will also appear evident that it is perfectly impossible to fix any period from the appearances of the womb, when the child had either died or been born. There is no reason why the womb might not have remained in the same situation after the birth of the child for any given time. In order to place the truth of this observation in a clear point of view, it will be necessary to enquire briefly into the causes of the contraction of the womb, after the delivery of a child.

The powers by whose means the solid parts of our frame are put into action are muscularity and elasticity. Elasticity is a property connected with the structure, and independent of life; muscularity on the other hand, is so connected with the living principle that it ceases at or soon after the extinction of life. It is by the combined influence of these two powers that the permanent contraction of the womb is performed. The muscular fibres of this organ are neither numerous nor very perceptible. The office of contracting the womb is,

without doubt, chiefly to be ascribed to the elastic fibres of this organ, and of the vessels, particularly the arteries which belong to it. It is plain, therefore, that the womb, unless in a state of disease, when dilated beyond a certain degree, must exert a certain effort to recover what may be termed its natural situation. This effort, except so far as the muscular influence is concerned, cannot be affected by recent debility, nor, for a certain time by death itself. The opinion, therefore, so confidently asserted by Mr. Hay, that the languid condition of Miss Burns, occasioned by her disease, would abate the contracting efforts of the womb; and that death would instantly destroy them, is unfounded, and betrays a complete ignorance of the structure and physiology of this viscus. Experience in this case completely confirms the deductions of reason. The contracting efforts so far from being diminished, are found to be augmented by the debility occasioned by the loss of blood, and by the approaches of death itself.* The principal cause of this appears to be the elasticity of the arteries of the womb. These vessels, being less powerfully distended with blood, in consequence of the feeble action of the heart, sustain a diminution of their cavity, and a shortening of

* Denman's Introduction to Midwifery.

their axis as is known to happen during and after death, and thus powerfully aid in contracting the sphere of the womb. It is in consequence of this elastic power acting after death that the arteries completely empty themselves of blood, which is in general all found in the veins. The womb, like the arteries, continues to contract after death till the resistance becomes equal to the elastic power.

The fibres of the womb may be so diseased without exhibiting any appearance of altered structure, as in a great measure to be deprived of their elasticity. Should therefore a dead child be separated from a womb in this situation, the elastic power of the organ would be balanced by the resistance long before it had recovered its usual dimensions. There is a case in Bonnetus of a womb having remained in a state of dilatation from the birth of the last child which happened upwards of a year before the death of the mother.* When I first noticed this case, I was of opinion that the womb must first have contracted to save the life of the mother, and that it had been afterwards dilated by some other cause than pregnancy. But I now think that the statement of Bonnetus may be admitted upon the supposition that the womb

* Sepulchretum Bonneti.

had parted with a dead child; and that, in consequence of a diseased fibre, the elasticity had been balanced by the resistance, while this organ was still in a state of dilatation. Cases are related, in which the womb has parted with several quarts of water monthly.* In these instances, this viscus, in my opinion, must have existed in a constant state of dilatation; for it cannot be supposed that it could have contracted and dilated regularly in so short a period. If in any case the contracting effort, and the resistance are balanced for any short period at any particular stage of the contraction, what reason can be offered why that state of the womb may not continue for any given period?

Supposing that this womb had parted with a child that had been long dead before its birth; and on the supposition that the mother did not die of a flooding it could have parted with no other; it is impossible to fix any period at which the delivery had taken place; the womb had certainly reached a stage at which the contracting power and the resistance were balanced; it might have remained in this situation from any preceeding period, and if Miss Burns had lived, it might

* Wilkes's Historical Essay, and Smellie's Midwifery.

have continued in that situation to any given period. Upon the supposition that there was no flooding at the time of the death, the mark at the bottom of the womb certainly could not be occasioned by the separation of a Placenta. All the appearances may therefore be explained from other causes as well as from the birth of a dead child. Indeed, the elasticity of the fibres of the womb was most likely to have been impaired by some cause of long duration, as by dropsy or moles, which may continue for years. The original dilatation was therefore more likely to have been occasioned by those causes than by pregnancy.

In order to understand this argument fully, it does not require a practical knowledge of medicine. After the description which I have attempted of the structure and mechanism of the womb, every man whose mind has been disciplined by mathematical learning and who understands the principles of mechanical philosoply is fully able to form a correct opinion on the subject; and, in my judgment, the man whose mind has been so disciplined, though he may never have seen a womb is a much more competent judge of the question, than the man whose mind has not been so disciplined, though he may have dissected and handled a thousand.

The great and insurmountable obstacle to the supposition of any other cause than pregnancy producing the appearances which this womb exhibited, is, in the opinion of the authors of the "Vindication," the circular mark on the bottom of the womb. The Gentlemen acknowledge that the distention of the womb and even the dilatation of its mouth may have been occasioned by other causes, as by dropsy, but they maintain that no other cause could produce the mark in question and the enlarged condition of the vessels within the circumference of this mark excepting pregnancy.

When I first examined the womb, this mark certainly did not appear to me to resemble what I supposed would be the mark left by a Placenta, and had, no doubt, its effect in raising doubts in my mind respecting the pregnancy. This circular mark exactly resembles the description of appearances which the fundus of the womb is occasionally known to assume under a state of dilatation from whatever cause. Anatomists have observed frequently, though the appearance is not constant, the fundus of the uterus pitted by considerable holes, in which drops of blood are generally found in those women who have died during menstruation. Mauriceau, Spigelius, and Wind-

slow have described these appearances on the internal surface of the fundus of the womb. "These holes" says Artruc, in his excellent treatise on the diseases of women, "become in the uterus of pregnant women, of a round and oval figure of from one line to two—from the increase of magnitude which the parts of the uterus suffer at that time."* Though Artruc speaks of this appearance as accompanying pregnancy, it is evident that he means that it must accompany the distension of the womb from any cause. The fundus of the Uterus is circular in its unimpregnated state and therefore will preserve the same figure when the womb is generally enlarged.

The vessels belonging to this part of the womb, and which are properly described by Mr. Hay as *plainly discoverable*, were only the venous appendices, which open into the fundus of the womb, encreased with the general enlargement of that organ. Mr. Dawson and the authors of the "Vindication" state, that vessels capable of receiving a common bougie, and as large as a crow quill, are observable within the circumference of the mark alluded to. But I must be permitted to

* Artruc, sur Maladies des Femmes, vol. 1. p. 19 (English copy.)

say, that I could not observe any such vessels at my first examination. If they had existed in that state, why did not Mr. Hay, who was much urged to give a full description of this mark, mention such a prominent and important feature in the picture. In fact, these vessels, as well as many other things of importance, have been discovered since the trial. What a misfortune it is that the whole body had not been preserved; we should then have had a very learned account of the appearances on dissection, new modelled.

Since the trial, I have been favoured with a view of the womb, in the presence of Mr. Christian and Mr. Dawson, two surgeons who have given decided opinions in opposition to mine.—The womb was in a state of great decay: I do not believe that, in substance, it was above one half of what it was when I first examined it. Its structure was, of course, in a great measure, destroyed. The vessels which have been described so minutely by Mr. Dawson and the authors the "Vindication," were pointed out to me by Mr. Dawson, and inflated by a blow-pipe. It will scarcely be possible to conceive the astonishment I felt at the deception into which these gentlemen had fallen. The vessels of which they speak were nothing else than communications between dif-

ferent parts of the cellular membrane, which was considerable on the fundus and cervix of the womb. The same openings were found in the same extent upon the cervix, but as the inflation had not been so much practised here as upon the fundus, the communication between the cells was not so free. The inflated appearance could never have been produced by blowing into blood-vessels unless the coats of these vessels had been perforated and allowed the air to escape into the cellular membrane. The veins, indeed, anastamose, but this happens chiefly in the ramifications. The inflation of veins would not, as happened in this instance, spread upon the surface but sink deep into the substance of the womb. The distinct appearance of these cellular communications was the necessary consequence of the dissolved state in which the womb was, and would have appeared in any part of the body in the same state where cellular substance exsited in any considerable quantity. Mr. Christian, who saw the womb at the time it was extracted from the body and who after the opinion he has given in writing, will not be suspected of admitting any thing unfairly favourable to my cause, said, that he could have had no idea of the womb being in such a state of dissolution.

Another circumstance, convincing me that the circular appearance on the fundus of the womb could not possibly be the mark which a Placenta had left, is the extent of that mark. Mr. Hay, when interrogated respecting the extent of the diameter of this mark, observed, that he wished, out of charity, to be within bounds; and was, with difficulty, brought to admit that it was four inches and a half; wishing that it should appear that he was not inclined to state the utmost extent, which would have indicated the birth of a child at nearly its full period. This is another eminent instance of Mr. Hay's charity; for that Gentleman must have well known that the larger he admitted the extent of this mark to be the stronger were the objections to the existence of a child at all. Mr. Hay once observed to me in a conversation, which will be afterwards noticed, at the Infirmary, that he had no doubt this mark was six inches in diameter. The authors of the "Vindication" say "that it was full four inches and a half in diameter". Why so many opinions respecting a thing that might have been ascertained with such certainty, and upon the extent of which such important consequences rested? Why was not this mark measured? When I lately saw the womb, I desired Mr. Christian and Mr. Dawson to point out to me the dimensions of the supposed

Placental mark, that I might have an opportunity of measuring it. They did so; and I took the dimensions according to their limitation, and found, by a measurement made in their presence, that the circular mark upon the fundus was seven inches and a half in diameter one way, and six inches and a half the other way. As this womb might contain about a quart, this mark, as will evidently appear, covered about one half of the whole internal surface of the womb; far beyond the proportion of the womb that is ever covered by a Placenta. I have not been able to find any data from which the capacity of a womb at the full period of gestation can be ascertained. There must, of course be a great diversity in this respect in different cases. I find from the conversations which I have had with several experienced Accoucheurs, that in their opinion a womb in the condition supposed, would at least contain five quarts. Upon the fair supposition of only an uniform extension of the Placental mark compared with the general extension of the womb; if a circle upon the circumference of a sphere whose solid is equal to one quart, measures seven inches in diameter, what will be the diameter of a similar circle upon the circumference of a sphere whose solid is equal to five quarts? From the demonstra-

tion of this theorem given in a note,* it appears that the diameter of the circle upon the larger sphere would amount to fully twelve inches.—Now, according to Dr. Denman, and the best authorities, the face of a Placenta at the full period of gestation, measures about six inches in diameter. We find, then, that the face of the Placenta of this woman at the full period of gestation would have covered a space four times as large as that which is usually covered by the Placenta; it being well known that the areas of circles are to one another as the squares of their diameters. Miss B. was a woman of very small stature. There is, I know, a difference in the size of Placentas, as there is in every thing human. But I could as soon be induced to believe that men existed of the stature of twenty feet, as I could believe that the mark pointed out to me by Mr. Christian and Mr. Dawson, had been occasioned by the separation of a Placenta. This is an objection which all the authorities in the world can never overcome.

After a proof so completely conclusive, that the rough appearance on the bottom of the womb, could not have been occasioned by the separation of a Placenta, it would appear superfluous to advance any other argument. I will, however, state another circumstance. This mark exactly covers

* See the last page.

the bottom of the womb, a part of that viscus to which a Placenta is very seldom, if ever, in that manner attached.

A corpus luteum has been found in one of the ovaries! This is another discovery that has been made since the trial, and is regarded by the authors of the "Vindication" as a certain criterion that Miss Burns had once been pregnant. "Nothing" say they, "can account for a corpus luteum in the ovaria but pregnancy." Very late authors of great authority state the contrary.—"An adult virgin ovarium" says Dr. Hooper, "contains a number of highly vascular vesicles, filled with a transparent fluid; these are ovula and were first discovered by De Graaf; besides these, there are occasionally two or more blackish spots; these are called *corpora Lutea;* they are supposed to be a certain criterion of a woman's having borne a child; but this is erroneous, for corpora lutea exist in virgins." Indeed, the assertion is contradicted by the very authority they quote. Denman says, they are found in females who have borne children, and such as are salacious, by which he must mean females of that character who have never borne children, else why the distinction? Indeed, the whole supposition respecting corpora lutea depends upon a theory of conception, to

which there are insurmountable obstacles. But allowing the theory to be true, the existence of a corpus luteum in the ovaria, would only prove that the venereal orgasm had taken place, which, without doubt, may happen *sine coitu*.*

Upon the supposition that Miss Burns had not died of a flooding, and that no coagula had formed in the uterus; and, of course, according to my argument, that she had not lately been delivered of a child; I was then asked by what other cause could the appearances in that womb be accounted for. I answered that there were many causes, meaning steatoms, moles, dropsies, tympanitic affections, by which the womb has been known to be frequently distended; but that, in my opinion, the most probable cause, in this case, was that species of dropsy termed the hydatid. The authors of the "Vindication," have strangely perverted the meaning of my argument on this subject. They have represented what I advanced only as a probable cause, among others, as if that had been maintained by me to have been the real and certain cause. They have therefore undertaken a great deal of unnecessary labour in attempting to dis-

* Oviparous animals, it is well known, part with their ova, without any intercourse with the male.

prove a conjectural opinion; and in pursuing this extraneous object they have altogether neglected my real argument. There is evidently a great deal of dexterity displayed in their generalship on this occasion. They found that my argnment, respecting the separation of the Placenta, in a certain state of dilatation of the womb, without excessive flooding, was not to be easily overcome. They have therefore passed this over with a word or two and directed all their force against the hydatids, which, in fact, were of no moment, but which they have contrived to magnify into the greatest importance. Mr. Clarke, they say, has seen Uteri remaining as much dilated after delivery as this, without a flooding taking place. The opinions of Mr. Clarke I shall afterwards have an opportunity of noticing. Assertions which contradict the known principles of our constitutions, ought to be regarded in somewhat the same light as miracles, and are not to be credited, except upon the strongest evidence, and certainly not upon any single authority. If any man were to tell you that he had seen an arm cut off, and that no blood was lost, although no means had been used to prevent it, would you consider him worthy of the least credit? So imperfect is our knowledge of nature, that we can often discover circumstances which

prove the fallacy of an hypothesis, without being able to substitute any thing more certain in its place. Though I had not been able to assign any reason for the dilatation of the womb, and the other appearances it exhibited, still the force of my objection upon the suppositions stated, to the pregnancy, would have been equally valid. In this case, the mind, in balancing difficulties, could have no hesitation on which side to incline the scale. For, by admitting the supposition of pregnancy, you are obliged to admit a conclusion contrary to the laws of nature; whereas, by rejecting that supposition, you would only admit an inexplicable phenomenon; and heaven knows that in the complicated fabric of the human body—the most stupendous machine in the universe—there are many phenomena for which the wisest can give no account. We are not, however, even reduced to any such dilemma; the authors of the "Vindication" admit that the distention of the womb, and even the dilatation of its mouth may be occasioned by other causes than pregnancy, as by dropsy. "No viscus in the female abdomen," says Dr. Wilkes, "is more subject to dropsy than the Uterus, and this too in every stage of life. * * * * Many innocent virgins have lain under the heavy censure of pregnancy, when the dropsy of the Uterus has been

the evil they laboured under."* At another place the same author remarks, "Sometimes collections of water to the amount of many pints are discharged monthly from the mouth of the womb, when the belly falls." I was the more inclined to consider the distention of the womb in this case, upon the supposition that it had not been the effect of pregnancy, to have arisen from dropsy; that the symptoms with which, according to the strongest testimony, she was affected, were those which characterise dropsy of the womb; namely, shortness of breathing, softness and flatness of the breasts, paleness of the face, wasting of every part of the body except the abdomen, fluor albus, and the absence of the catamenia, for a period much longer than the duration of pregnancy.

The most difficult encounter, in the opinion I suppose of my opponents still remains to be sustained, the authorities of certain Practitioners in London and Liverpool. My adversaries have had recourse to a singular mode of settling a medical dispute. Are we now returned to the period of ignorance and bigotry, when all matters of reason and conscience were determined by privileged authorities? Is an end to be put to all individual

* Wilkes's Historical Essay on Dropsy.

independence of sentiment by the terrors of an Inquisition? This is a most dangerous example, calculated to suppress the frequently happy temerity of youth, and threatening the dearest interests of Science. I appeal from this self-constituted tribunal to the public at large. In the first place I submit it as a question for serious consideration, Whether the simple inspection of a womb that had been nearly seven months extracted from the body; and which, as was confessed by one of my opponents, was in so complete a state of decay as scarcely to retain any of its original characters; could have afforded sufficient data from which any man, however great his experience and knowledge may be supposed, could have justly decided whether that womb had been impregnated recently before its extraction or not? Yet it is from the structure and appearances of the womb, that the London gentlemen confess to have formed their opinions—a structure which was in a great measure destroyed, and appearances that were totally altered. These gentlemen knew nothing of the previous history of the lady; of her habits or diseases; and, above all, of the state of the mammæ. I have heard that a very strong case was submitted to their consideration. But if this case be the same with what has been published in the "Vindication," and considering the importance of the object that was to have been

obtained, it is not likely to have been less favourable to the views of my adversaries; any opinions influenced by descriptions so foreign to the purpose, ought to pass for nothing. In a matter of this importance, and in which the interests and professional character of an individual were so deeply concerned; good manners, or at least a respect for the appearance of justice, would, it might have been expected, have induced them to pause and to defer their decision until they had known what that individual had to advance in defence of his doctrines. It is said that Mr. Hay, having placed before these gentlemen the womb, first delivered his own sentiments and then mine. But even supposing that I could have considered Mr. Hay as an impartial historian, in an affair in which his own interests were so deeply concerned, and in which his feelings appear to have been so keenly engaged, that gentleman is among the very last persons whom I would select for being the vehicle of opinions that required any thing like the exercise of reasoning in the reporter.

None of the opinions delivered by any of the six London Gentlemen, except one, applies to the present case. The question in dispute between the authors of the "Vindication" and me, is not whether Miss Burns had recently been delivered

of a child; but whether a child, in the dilated state in which the womb existed, could have been born without a flooding continuing till death, or till the womb had been more perfectly contracted. Some of these gentlemen say that they cannot satisfactorily account for the appearances which this womb afforded, except upon the supposition of a recent delivery of a child. But this argues only the imperfection of their knowledge, not the existence of pregnancy. I would ask Dr. Denman, whether, if he had seen the mammæ of this lady and found them flat, flabby, and pendulous, without the least appearance of an areolá around the nipple; and had known, also, that she had formerly had full and firm breasts; he would still have maintained that she had reached an advanced period of pregnancy? The areola, or brown circle, around the nipples, has generally, by men of experience, been considered as a certain and universal concomitant of pregnancy; Dr. Denman says it is general, though he thinks not universal. Why does he think so? Not from his own experience; because if he had ever seen such a case, he would have said, without any qualification, that it was not universal. But in this case there was no brown circle around the nipples: as that circle cannot exist in the manner supposed, except when the

mammæ are enlarged beyond the state in which they were before impregnation.*

One universal attendant of advanced pregnancy was absent in this case. Had the gentlemen who opened the body only taken the trouble to have looked at the mammæ, (and who, in a case of supposed pregnancy, would have omitted it?) they would have found sufficient reason to have abated a good deal of that confidence with which they delivered their sentiments upon this subject.

Mr. Clarke is the only one of the London Practitioners who comes to the point at issue between me and the authors of the "Vindication." This gentleman says, "I have examined Uteri after the death of patients lately delivered, in whom there was no hæmorrhage, which, however, have been contracted to no greater degree than the Uterus which is in the possession of Mr. Hay." Mr. Clarke observes also, "that there is an appearance in one of the ovaries, which never is seen except in an impregnated, or lately impregnated Uterus." Now, I have already shewn that the first part of this assertion is erroneous; for that the appearance, meaning a corpus luteum, in the ovaries

* Denman's Introduction to Midwifery.

may, and does exist in the Uteri of virgins. The second part of the assertion, "impregnated, or lately impregnated Uterus," is in contradiction to the united testimony of those even who believe in the doctrine of corpora lutea; for these are supposed to remain for life, and by no means to indicate a late or remote pregnancy. When a man, to support a certain cause, is found, in the compass of a few lines, to be the author of two assertions which are not well founded, what confidence can be reposed in any assertion he may make in the same cause? especially if that assertion be in the nature of things altogether improbable. Besides, Mr. Clarke has not mentioned whether in these cases the children had been dead, or not, long before birth. Nor has he stated the diseases of which the women died. There might have existed such an organic affection of the Uterus, or of the parts about it, as to have destroyed in a great measure the permeability of the arteries of the womb, or of the trunks from which they had ramified. Any argument drawn from such cases would not apply to the present question.

At this remote situation, we are disposed to consider the Practitioners in London as a different species of mortals, possessing a certain degree of infallibility. This has arisen chiefly from the report

of the pupils who issue annually from their classes. These Tyroes, having just emerged from the shop of the Apothecary, with no other knowledge than that of gallipots and pills; after attending the London lecturers for a few months, come forth finished Surgeons and Accoucheurs; and exercise their skill upon the lives and the limbs of their fellow creatures, with a confidence that can be equalled only by their ignorance. As admiration is the natural growth of an ill-informed mind; they are astonished at the display of things they do not comprehend; consider the rudiments of knowledge, as a wonderful proficiency; and regard their masters as the wisest of men. I must confess that I have the misfortune to look upon the London Practitioners as fallible, like other men; and even to suspect, from the bustle of one kind or another, in which those of any reputation are engaged, leaving little time to be employed in study, that they are below the common average of the profession.

But the morality of these gentlemen has, on this occasion, been even worse than the exercise of their authority was presumptuous. They must have been aware of the purpose for which their opinions were obtained; namely, to establish the reputation and interests of a set of men, upon the ruins of those of an individual, who, were he known to

them, might appear to possess as strong claims to their protection as the persons whose cause they have thus unfeelingly abetted in prejudice to him. After reviewing this transaction, a person would be almost disposed to suspect that the reputation of a pupil and the credit of a particular school of medicine, had had too great a share on their conduct.

It seems that the spirit of persecution in matters of opinion, prevails with as much force and intolerance in the minds of some men, even in these enlightened days, as it ever did in the days of Tycho Brache or Gallileo; and that it is owing to the mild equity of our laws, not to the candour and liberality of some minds, that freedom of opinion, even in matters of science, is not suppressed. Finding that my sentiments were fast gaining ground among the enlightened part of the community, my adversaries became alarmed; and knowing themselves unequal to the contest, they have had recourse to their London associates to prop a declining cause. But the benefit of this device can only be momentary—this feeble last resource will be as ineffectual as it is disgraceful to them and their London friends.

Magna est veritas et prævalebit.

With respect to the gentlemen of this town who have entered into a combination, whose certain tendency and only assignable purpose are to ruin my medical reputation, I must be permitted to be a little more particular. When a man publishes his opinions upon any subject, criticism has only to do with these opinions; and the author, except so far as he is concerned in them, is out of the question. But the case is very different when a man, or a body of men, lend the authority of their names in confirmation of a doctrine. It then becomes the province of criticism, in order to prevent any imposition on the public, to inquire into the value of that authority. This is peculiarly requisite, if the interest of any person is likely to be injured by this authority passing for more than it is worth. The public are also concerned in the examination, as impositions of this kind are most injurious to the best interests of society. It becomes my right and my duty to estimate the qualifications of those gentlemen, who, either by the joint subscription of their names, or by separate letters, have constituted themselves the public censors of my sentiments. What can these gentlemen have in view by this conduct? Do they hope to proscribe the judgment of the public, or expect that a reverence for their names will terrify the world into an assent to their opinions, without an

examination of the grounds of them? Are these Liverpool accoucheurs so noted in the world as to give them reason to look for such an obsequious obedience to their authority? On the contrary, in all this large collection of Liverpool Physicians, Surgeons, Apothecaries, Accoucheurs and common Dentists, is there a single name that is known to literature or science? Forbid it, Heaven, that literature or science, or any thing that is esteemed good, honorable, or praiseworthy, should have any connection with such an association.—We can only judge of the qualifications of men of science and literature by their published performances. The value of the authority of these gentlemen must be derived from those specimens of their talents which they have laid before the public. But excepting in one unimportant instance, I do not know of any such specimens. I have never heard that a discovery of the least value has ever been made by one of them; that any obscure point has been elucidated, or that any thing has ever been added by any of them to the general stock of human knowledge.

Success and local reputation, as a physician, it is well known, are by no means the criteria of real merit, or of profound medical skill. They are not unfrequently the produce of very

different qualifications with which the manly independence of the scholar, the unpresuming simplicity of the scientific mind, or true liberality and nobleness of heart, cannot easily coalesce. They are often the fruit of an assiduous attention and fawning submission to the great; of dark attacks upon the reputation, and of well timed insinuations against the skill, of a rival; and of a successful study and dexterous management of the characters constituting the community in which the physician resides.

I am told that some persons, who have been persuaded to join in this persecution, have maintained that they did not intend, by it, any injury to me; but that they only meant to express their inoffensive opinions on a particular subject. Is it possible that any man can be so weak as either to be deceived himself or attempt to deceive others by such contemptible sophistry? The effect so far as their authority can go, must have appeared to them evident; and, having known the consequences, are they not responsible for the means which, with such a knowledge, they employ? By a premature avowal of their sentiments, they have deviated from that honorable impartiality which is due to any member of the profession in the differences that may arise between him and any other

member of it. Instead of waiting to assume the honorable character of judges, they have become parties to a cause that did not concern them. What object, I would ask, could be gained by this premature avowal of their sentiments? Certainly not the attainment of truth which could not be influenced by opinions nor signatures, and which remains exactly where it was before. Whatever covering may be attempted to be thrown over this scheme, the purpose of the framers of it is plain; it was to induce all the medical men in Liverpool to become a party against me; to place them in a situation of such hostility to me, that honour would prevent me, in future, from having any friendly intercourse with them, and thus to leave me alone, as it were, in the profession. The zeal and activity which my opponents have shewn, and the artful lures, adapted to different dispositions, which they have thrown out, to increase the number of their adherents, have been remarkable. They have deceived the simplicity of some, by convincing them that they did not intend any thing hostile to me; they have inflamed the patriotism of others, by insinuating that it was a public question, a matter of legislative importance, involving the laws of medical testimony, which they assert I had violated; they have awakened the fears of many by suggesting, both directly and through

the mediation of friends, that if they did not make a public declaration of their opinions against me they would share in the unpopularity of my doctrines. The power of my antagonists has, no doubt, had its influence; for since the trial took place, Dr. Gerard has been exalted to the dignified situation of Mayor of Liverpool. Several of those who have engaged with activity in this persecution, bore me, of old, a deadly grudge. They remember the signal victory I obtained over them at the dispensary. They recollect that I detected their illiberal plans, and exposed them to the indignation of the public. They have suppressed, till now, their ill-disguised resentment; but, falsely thinking that I was laid low, they have seized this favourable opportunity of annoyance; and, imitating an illustrious kindred example, have approached and aimed at me a dastardly blow. Others had been consulted upon the case from the beginning; and, as is well known, had given an opinion conformable to that supported by the authors of the "Vindication." It is well known that there are certain medical characters in this town, who consider any opposition to their sentiments as more heinous than treason—as an offence never to be forgiven.

Though, indeed it is mortifying to think that any person belonging to a liberal profession, could

be found to degrade his character so much as to become the creature of influence, the tool of party, the instrument of injustice; yet, considering the imperfections of human nature, and the powerful motives that have been held out to it; it is, upon the whole, honourable to the profession of Liverpool, that after every exertion, the collection of authorities has been so small; for the design has been discovered and condemned by more than two thirds of the medical gentlemen in this town; and, considering the nature of the association, it is needless to add, by far the most respectable in virtues and in talents.

The opinions given by some of the gentlemen in this town require a more particular consideration. I have, indeed, been much entertained and instructed by the long account given by Mr. Dawson of the placental mark. It is certainly a very minute and learned description, exhibiting many proofs of great research, as the very language of several authors, who have written upon the subject, has been copied into it. Indeed it is a master piece, and the only fault it possesses, which, indeed, I am far from considering as a fault, is, that not one word of it applies to the womb in question. I have also seen the womb lately extracted by Mr. Dawson, which he says exactly resembles

that in the possession of Mr. Hay. Here, also, the effects of a warm imagination are perceptible. At the time when the womb, in Mr. Dawson's possession, was extracted from the body, according to the report of Mr. Graham, an old surgeon who was present, it was about the size of the closed hand, had a firm consistent feel like that of the heart of an animal newly killed, and that the little cavity it possessed was filled with clotted blood. The placental mark, on the surface of this womb, so far from shewing any resemblance to the rough mark in the bottom of the womb in possession of Mr. Hay, confirmed me in the belief that they could not have been occasioned by the same cause, and that the former was only the occasional natural appearance of that part of the womb in a state of dilatation from any cause. Mr. Dawson is a most obliging young man, and very convenient for supplying appropriate cases to those who may be in want of them. I remember when Mr. Park, more than a year ago, read a paper upon the retroversion of the Uterus, at the library; Mr. Dawson, who has never, as I understand, had much practice in midwifery, because, forsooth, he is a very young man and a gallant batchelor, had the good fortune to have seen no less than five cases, all tending to confirm the theory of Mr. Park; while the oldest practitioner in town had never seen more than one

or two. If the good fortune of Mr. Dawson continues, with what an assemblage of wonders will his head at length be stored! This town appears indeed, to be most excellently adapted for the residence of those who wish to publish upon medical subjects. They need only mention what facts and cases they want, with all the particulars, and they will be soon supplied with abundance to their mind, on good authority. Many of the young surgeons, particularly Mr. Dawson and Mr. Christian, have them ready made, or nearly so, requiring only some slight touches, like pigeon-hole constitutions, adapted to all occasions.

Dr. Traill, another very young man, would, it appears, be found no less useful than either of the two gentlemen I have mentioned. This gentleman has seen a human Uterus, in the progressive stages of pregnancy, as he at one period practised midwifery. We are not informed upon what extensive theatre this practice was exhibited. But there certainly must have been an uncommon mortality among the women who fell under his charge. They seem to have died for the purpose of giving him a view of their wombs, and enabling him to write this letter to his friend Dr. Bostock.

It is worthy of remark that the greatest number of the medical gentlemen of this town, whose letters to the authors of the "Vindication" have been published, had never seen the womb until the date of these letters. They confessedly went on purpose, and in all probability carried these letters, already written, in their pockets. It will appear from the date of these opinions, that none of these gentlemen had made any communication on the subject, until after the reception of the opinions of the London practitioners, whose sentiments and even language they have frequently adopted. This transaction admirably confirms the opinion which the illustrious Cullen entertained of the generality of medical practitioners, and which he has so happily expressed in the sentence which I have used for a motto, denominating them *Imitatorum servum pecus.* It is curious to trace the channels through which the influence has run, for the purpose of obtaining those authorities; Mr. Shaw has been induced to go and examine the womb, in consequence of a conversation with Dr. Lewin; Mr. Hay has procured the learned letter from his friend and colleague Mr. Dawson; Dr. Traill's valuable communication has been obtained through the influence of his friend Dr. Bostock. These letters exhibit internal proofs of a conspiracy. The plan has been well contrived

by the prime movers of the machine; every man has been appointed to influence his friend; concealment of purpose has been combined with speedy execution, the two great characteristics of well conducted enterprises. But, as often happens in such cases, some one, from imprudence, excess of zeal, or treachery, discloses something which serves to elucidate the whole design; so, in this case, the hostile intentions of my opponents have been fully revealed by one of themselves, as will appear by the following correspondence. Having understood that Dr. Brandreth had, upon several occasions, since my return from Lancaster, accused me of having, in one instance in which he was consulted along with me, shewn proofs of gross professional ignorance; and having further learned that the doctor had expressed his intentions of making no secret of this in future, I wrote to that gentlemen a letter, of which the following is a copy.

TO DR. BRANDRETH.

Liverpool, 18*th Oct.* 1808.

SIR,

I have, from various quarters, been informed that you have lately indulged yourself in a very unbecoming freedom of remark respecting me; and, in particular, that you have said, that in a

case which you attended along with me, connected with the uterus, I had shewn great ignorance, and recommended a very improper treatment, or words to that effect. I am disposed to suppose, that there is some mistake in all this; for I have had of late, sufficient occasion to know how false rumour is; and cannot, upon slight grounds, be induced to believe that a man could disgrace a liberal profession, by so unfounded, unprofessional, and ungentlemanly an assertion. You are, I know, sufficiently sensible of the influence you possess in this town, to be aware that the report of such an assertion having proceeded from you, must be highly injurious to my interests. You cannot, therefore, consider it unreasonable that I should require of you to state the case and the error I had committed, or afford me the means of contradicting so scandalous a report, equally injurious to your character and to mine.

I am, Sir,

Your most obedt. Servt.

JAMES CARSON.

To which the following answer was almost immediately returned.

TO DR. CARSON.

SIR,

Since a transaction in a business that has afforded great surprise to any well-informed medical man that I know, in which you have been conspicuous, I have, I believe, more than once said I had been consulted in a case of pregnancy in which you were concerned, and that on this occasion you appeared both to myself and Mr. Park wholly unacquainted with the subject. I do not recollect I have ever mentioned this opinion, except in the presence of Mr. Park, who has uniformly expressed the same.

I am, Sir, Your's,

J. BRANDRETH.

I then wrote letters, of which the following are copies, to Dr. Brandreth and Mr. Park:

TO DR. BRANDRETH.

Seel-street, 18*th Oct.* 1808.

SIR,

I have been favoured with your note, which has fully satisfied me respecting the correctness of the reports which I had heard. But I have to require that you will further satisfy me respecting the time and the occasion at which I exhibited those proofs of professional ignorance, with which,

according to your own acknowledgment, you have repeatedly charged me in my absence, and that you will also state the reasons which induced you and Mr. Park to consider me so ignorant.

I am, Sir,

Your most obedient servant,

JAS. CARSON

To Mr. PARK.

Seel-street, 18th Oct. 1808.

Sir,

Having been informed that Dr. Brandreth had, upon several occasions, charged me in my absence with gross ignorance, in a case of pregnancy, in which also he had been concerned, I applied this morning to Dr. Brandreth respecting this report, and have been honoured with an answer from that gentleman, of which the following is a copy:

(Here Dr. Brandreth's letter was copied.)

It appears that you also were concerned in this case, and that you have joined with Dr. Brandreth in accusing me of gross ignorance. I have to request, therefore, that you will state the time and the occasion at which I exhibited those proofs of

ignorance, and also the reasons which induced you and Dr. Brandreth to consider me so ignorant.

I am, Sir,

Your most obedient servant,

JAS. CARSON.

From Dr. Brandreth I have received no answer to my second letter. The day following, the 19th October, I was honoured with the following letter from Mr. Park :

To Dr. CARSON.

Bold-street, 19th Oct. 1808.

Sir,

The only case I know that you can allude to, is that of Mrs. ———, whom you know I saw once, and but once, for ————. In this it appeared both to Dr. Brandreth and myself, that Midwifery was a branch of science with which you appeared to be very little acquainted. I do not now recollect the particular circumstance on which that idea was founded. This opinion we mutually expressed to each other, but not (to my knowledge) to any other person whatever till a late occasion, on which I most cordially declare your conduct met my decided disapprobation, as well as that of almost every professional man I know.—Since that I confess I have more than once

expressed my surprise at the opinions delivered by one who had never practised; and who, when he first settled in Liverpool, appeared to me little acquainted with that branch of science.

I am, &c. Your's,

H. PARK.

The case of which Mr. Park speaks, occurred, I think, upwards of four years ago. It was a case of hæmorrhage, previous to abortion, in the third month of pregnancy. I had seen the lady several times before any of these gentlemen had. My prescriptions were a moderate dose of the oleum Ricini, and a very diluted solution of the sulphuric acid, together with open windows and the recumbent posture. The lady was seized with faintings. I became alarmed. My friend, Dr. Currie, whose memory I shall ever cherish with the warmest affection, and whom I was accustomed to consult, had that day gone on a journey to Scotland, for the recovery of his health. Had this great and good man been now alive, this tribe of Liverpool practitioners in medicine, would not have dared to have conducted themselves towards me, with the injustice they have done. They know that he would have afforded me the mighty protection of his arm; at the view of which, they would have shrunk dismayed into their original nothingness;

like the infant child into the bosom of its mother; scared by the burnished shield and towering helmet of Hector.—In the absence of Dr. Currie, I introduced Dr. Brandreth into the family. Infusion of roses was prescribed, instead of the weak solution of the acid; and magnesia, in case the oil should fail. The lady recovered soon, without, I believe, taking any thing more, except a little magnesia. In what particulars I betrayed complete ignorance of the case, I do not know; Dr. Brandreth refuses to tell, and Mr. Park does not remember. I was perhaps more alarmed, than the urgency of the case required; for, from esteem and friendship, I was much interested in the fate of the lady. At that stage of my practice, too, I was fearful of the consequences of the responsibility of such a case, resting upon me alone. The anxiety which I shewed, arising from these causes, might, perhaps, have been considered by these gentlemen, as the indications of embarrassment, proceeding from ignorance. But if I, a young Physician, had, to their experienced eyes, shewn any ignorance, (and who in the wide field of medical practice has not to accuse himself of having been often ignorant?) ought not these gentlemen, at the time, to have pointed out to me my error, and aided my inquiries for better information? Their language to me then was the language of approbation. Four

years have elapsed without any mention of my ignorance. At a time when the current of popular opinion, springing from errors which they themselves had defended, ran strong against me; these gentlemen, with a skill of which they appear to be complete masters; have seized this favourable opportunity; have assailed me behind my back, and inflicted a severe but dastardly wound. The charge of professional ignorance against a young Physician, from men of high professional character, is an aggravated offence. The robber who enters my house and plunders me of all my goods, is indulgent—is merciful, and does me a trifling injury, in comparison to the robbery which these men have conspired to make of my reputation. It might have been expected that their station in life, and a respect to the character they had to support, would have raised them above such calumny; but this is a proof that has occured to me, among many others, that neither wealth, nor station, nor opportunities of refinement, can ever completely correct the natural deformity of a low, selfish, and illiterate mind. It is easy for Dr. Brandreth to say, that such a man is ignorant; that he has completely mistaken the case; and such insinuations may have their intended effect among the ignorant and the vulgar, rich and poor. It might be easy, in certain communities, for any man to gain a reputation by such

means, provided he could steel his breast against all the generous and honourable feelings of our nature. Let wealth be the portion of those who can stoop to gain it by such arts; for my part I would rather eat the bread of poverty, and what would be more poignant to my feelings; see my wife and infant children eat it, than purchase the world by following the example of these gentlemen in this case. Perhaps the time is not far distant when the world will be disposed to give me as much credit even for medical knowledge, as it ever did to Mr. Park or Dr. Brandreth. Literature and science have been the business and delight of my life. These afford the riches after which my mind aspires. The love of an honest fame has ever glowed in my breast, and though my ardour may have been for a time suppressed by the anxieties that have attended a long and arduous struggle for independence, yet the phantoms of future distinction will occasionally appear on the distant hills, and dispel the gloom by which the horizon of my life has been so frequently overcast.

Mr. Park, in his letter, does not say whether he has joined with Dr. Brandreth in accusing me publicly of professional ignorance, nor does he deny it. To the practice of Midwifery I never

made any pretensions. I have publicly avowed my ignorance of it. I have exercised no deception on that head. But is it to be inferred from that circumstance, that I should be ignorant of the appearances, structure, mechanism, Physiology and Pathology of the womb? As well might it be concluded, that because I am not a practical Dentist, I should, therefore, be ignorant of the structure of the teeth; or because I am not an Oculist, I should not be acquainted with the beautiful and complicated fabric of the eye, or with the laws of vision. Very different qualifications are requisite for the due consideration of the important subject in question, from the actual exercise of midwifery as an art.

But are these gentlemen, who build so much upon their experience, as infallible, even in cases connected with the womb, as they would wish themselves to be considered? Do they remember the case of Mrs. ———? As people generally have short memories in such instances, I will endeavour to recal the particulars of this business to their recollection. This poor unfortunate woman applied to the Dispensary more than two years ago, principally, I believe, with a view to have it ascertained whether she was with-child or not; for though she grew large, she did not find herself

affected in the manner she used to be in former pregnancies. Mr. Christian, whose patient she became, first, I believe, conceived it to be a case of extro-uterine fœtation, and was confirmed in his opinion by the concurrence of Dr. Lyon and Mr. Park; who, after the most deliberate examination, pronounced it to be a case of which there could be no doubt; one having felt the feet and the toes; another the ribs, and so forth of the child. An affair so wonderful not only attracted the attention of all the medical gentlemen in this town, but the noise of it spread over the kingdom, the expectation of the medical world was fixed upon the event. *Parturiunt montes.* In the mean time, the child grew apace; and the mother had advanced into the tenth month of pregnancy. As the child did not point to any particular place, and as no signs appeared of its making a way for itself through the parietes of the abdomen; it was proposed and at length determined to relieve the mother from the burden by an operation. Meanwhile, however, the poor woman, who had been sinking for some time, died; and thus the character of the medical attendants was saved; and a horrid tragedy prevented. For, a few days after death, the body was opened in the Infirmary, in the presence of a great number of the faculty, when lo, instead of a child, an immense schir-

rous ovarium was found! I went home from this dissection, not certainly with feelings of the most comfortable kind, being stung with self condemning thoughts, for having made so complete a surrender of my judgement to the authority of others; for I had, like almost every medical gentleman in the town, once seen the woman in her lifetime, but had never examined her. Though in this case the child grew rapidly, and had attained a great size, yet the mother never felt it give the least movement; notwithstanding that in all the cases that have occurred of this kind, in which the child had reached any considerable size, the motions were more painfully perceptible than in the ordinary pregnancy. The breasts, too, were very flat and pendulous, without any mark of an areola around the nipple; but it appears that the state of the breasts, which used to be examined formerly for the purpose of ascertaining a present or recent pregnancy, are considered now too vulgar a concern to be thought worthy of notice by the wise Accoucheurs of Liverpool.

I would ask, then, in the name of truth, if men could err so egregiously in so plain a case; of what value ought their authority to be deemed in the present case, which, in the opinion of all candid thinking men must be considered of great

intricacy, and upon any supposition, beset with almost insurmountable difficulties?

I was not interrogated respecting the cause of Miss Burns's death. The causes of sudden death are so numerous, and arise from such a diversity of incidents in our frames, and in this case are so completely indiscoverable, on account of the most disgracefully deficient dissection ever made, and on which any legal proceedings were attempted to be founded, that it would almost appear presumption in any man who had not carefully watched the symptoms, to form even a conjecture about them. Taking into consideration, however, the imperfectly described symptoms, and the position in which she died, I will venture to state what appears to me the most probable conjecture. I consider it purely accidental, and little connected with the disease with which she was affected, and which seems to have been in a great measure removed. The danger of a sudden transition from the recumbent to the erect posture in cases of debility, especially from the affections of the alimentary canal, as in a cholera morbus, dysentery, and putrid fevers, is well known. Intending to have gone for certain purposes into another room, Miss Burns, at the time she had reached the parlour door, began to feel the frequent effects of an

erect posture, a deficient supply of blood to the head, and a diminished action in the brain; finding herself going, she laid hold of the corner of the room and fell against it. She unfortunately did not fall upon the floor, but the head and upper part of the body were supported in the erect position against the corner of the room. The faint was prolonged by the same cause which had occasioned it, the erect position of the head, and terminated in death. My esteemed friend Mr. Thomson, formerly Deputy Inspector of Hospitals in this District, and my superior; now head of the medical staff to the gallant armies in Portugal, informed me that, in the West Indies, where he had long been Staff Surgeon, soldiers who had been affected with fevers and fluxes, were frequently found unexpectedly dead, sitting upon their close stools. The explanation which this sage experienced officer gave of this event, the same which I have now related, made a deep impression on my mind. The reason that feeble exhausted persons do not more frequently die of faints is, that the disease proves generally its own cure, by bringing the person to the ground; for by the recumbent posture, the force of the circulation is restored to the head, the energy of the brain excited, and life renewed.

I have been accused by the authors of the "Vindication" of not having acted with professional openness and candour towards them by concealing my intentions and opinions. This charge they have endeavoured to support by connecting together detached parts of private conversations. But this, like all other charges of actions not consistent with the strictest honour and rectitude that have been advanced against me, will be found totally unfounded. My sentiments on the case in question were well known to many of my friends and could not be unknown to some of the authors of the "Vindication" some time before I left Liverpool. When I first accidentally saw the womb, (for having dined one day at Mr. Reay's in company with his partner Mr. Hay, I was asked after dinner if I had any curiosity to see the stomach and the uterus of Miss Burns) I was struck with its large and bag-like form, and having put some questions about hæmorrhage, a doubt arose in my mind respecting its having parted with a child; and from the manner in which I argued the subject with these gentlemen at that time they must have been convinced that I entertained doubts respecting it. One Sunday, some weeks before the trial, I do not recollect whether I had then been served with a subpœna or not, I met Mr. Hay and Mr. Reay at the apothecary's of the Infirmary.

The poisoning of animals for the purpose of ascertaining the action of different poisons became the subject of our conversation. I expressly said that a hole of any considerable magnitude could not be directly produced during life by poison; and I appeal to Mr. Reay, Mr. Gresly, and Mr. Thompson, the nephew of the Inspector, who accompanied me, for the truth of the assertion. I observed that since they were in the way of killing animals I would be obliged to Mr. Hay if he would open the thorax of some of them in a way I would explain to him, as I was then engaged in investigating the causes of the motion of the blood; and my attempts to elucidate this obscure but most important part of the constitution of animal life, will perhaps soon be laid before the public. He replied that he would with pleasure give me every assistance in his power but that for reasons which would occur to myself, I could not be permitted to witness these experiments. Did this conversation shew any desire of concealment on my part, or a disposition to communicate on the part of Mr. Hay. On another occasion, I told Mr. Hay that I was of opinion that Miss Burns did not die of poison. Mr. Hay said that if that was my opinion I must be ignorant of the case. But Mr. Hay never attempted to remove my ignorance. On the Friday, I think, before the trial, two days before I left Liverpool,

when it was generally known that I had been subpœnaed on the part of the defence, and that I had entertained opinions different from the medical witnesses of the crown, I met Mr. Hay, who, after the usual salutation said, "Well, I understand that we are to be sweated by you and Dr. Campbell at Lancaster." I replied that I was certainly going to Lancaster, and expected to meet Dr. Campbell and some other medical gentlemen, in consultation on this case. Mr. Hay, asked if I knew, as was reported, that some London anatomist was expected to be there; for they seemed always to be alarmed about some terrible man from London. I replied I did not know. At parting, I said, "Well, Hay, we shall meet again at *Philippi*." On the Wednesday before the trial, as I came out of the Crown court I found Mr. Will. Statham, the solicitor for the prosecution, Dr. Gerard, Dr. Bostock, and, I think, Mr. and Mrs. Lawson, in the passage, waiting, as I supposed, to be called in, to give evidence before the Grand Jury. Mr. Statham said, "Dr. Carson, we are alarmed to see you here." "No," I replied, "I am sure you can never be alarmed at the discovery of truth." "God forbid," said Mr. Statham, "I wish you could be of any service to him; it is an unpleasant business for all concerned." He mentioned these words with a feeling that did honour to his heart; at parting, I said, "we

came all here for the same purpose, the discovery of truth." Dr. Gerard and Dr. Bostock were both present at this conversation; they said nothing; but I observed the contemptuous smile that played upon the countenances of these gentlemen. On the same day, I think, I met Mr. Hay walking along the Castle wall. After some talking, Mr. Hay observed, that if I had not prepared myself I might make an awkward appearance, or words to that purpose. "Appearance!" said I, "I do not know for what purpose I am brought here," meaning, and Mr. Hay could not have misunderstood my meaning; that I did not know that I should be required to make any appearance in court. My answer was short, because, I felt hurt at the impertinence of the observation about awkward appearance. Mr. Hay asked me, where I lodged, was informed, and promised to call upon me that evening; but though I waited in the whole evening on purpose, Mr. Hay never called, either that evening or the next day. As Mr. Hay appears, through the whole of this business, to have acted, not from his own opinion, but, in consequence of consultations with his colleagues, I suppose that it was in these consultations deemed adviseable that Mr. Hay should not visit me, lest, perhaps, he should be too communicative. Now, if there could be any advantage obtained by the communication of

our sentiments, or if it even could be done without forfeiting duty, of which I am doubtful, was it not the part of these gentlemen to make up to me, as well as mine to make up to them? They knew that my opinions differed from theirs, at least on the question of poison, as well as I knew that theirs differed from mine. But the fact is, they were too confident in their own powers and wisdom, to think, that what they had to advance, after so many months study, could be shaken by any thing that could be said by me, or any other person. They certainly all knew that Dr. Campbell was subpœnaed on the defence, why did they not propose a communication with that gentleman?

The authors of the "Vindication" have connected a garbled part of a private conversation between Mr. Hay and me, with another garbled part of a private conversation between Mr. M'Culloch and me, at Liverpool, previous to the trial, for the purpose of proving that I had acted with deceit in the case. They have inserted this very imperfectly stated part of a conversation between Mr. M'Culloch and me for more purposes than one. It was understood that that very intelligent Practitioner entertained sentiments different from theirs on the subject of pregnancy. They wished,

therefore, by one means or another, to let it be publicly known that this gentleman was on their side of the question, as the town has justly much reliance on that practitioner's sentiments in every thing that respects Midwifery. But I am happy that any part of this conversation has been mentioned, as it enables me, without violating my honour by stating a private confidential conversation, to communicate the whole. For some time before I left Liverpool, I had attended both Mr. M'Culloch's patients and himself; for he had had a very severe and dangerous illness. The day before I set out for Lancaster, when he was in a state of convalescence, and able to sit up in bed, I told him that I was under the necessity of delivering up my charge; that I had been subpœnaed to go to Lancaster on the trial of Mr. Angus; and that so far as I had been informed of the case, my opinions differed from those of the gentlemen who opened the body. I said that that hole, meaning the hole in Miss Burns's stomach, was never occasioned by poison; that I was even doubtful whether she had had a child, observing, that I understood there was little or no flooding.—Mr. M'Culloch, without allowing me to explain my sentiments fully, said I was certainly misinformed, for that woman must necessarily have flooded to death; that it was impossible it could be otherwise, con-

sidering the uncontracted state in which the womb was; for that he had known women flood to death when the contraction was one-half greater than in this case. I said I was glad to hear these sentiments from him, and to find that the result of my reasoning, founded on the established principles of our constitutions, agreed so exactly with his experience. I then observed, that if she did not die of a flooding, did it not follow, that she could not have had a child? Mr. M'Culloch would not allow of any other supposition but that she had had a child, and must have flooded to death.—He at that time did not mention any thing respecting the delivery of a child that had been long dead, nor for some weeks after my return from the trial.—It having again been urged that, if she had not flooded violently until she died, or if the vessels had not been plugged up by coagula, it appeared to me to follow from his reasoning, that she could not have been pregnant; he then said "How can you account for the appearances of the womb on any other supposition?" I replied, that that was not absolutely necessary, we were often able to disprove the supposed causes of an appearance, without being able to substitute the real causes in their place; but I observed, that, as he well knew, there were many causes besides pregnancy of distending the womb; as steatoms, moles, dropsies, and tympanitic

affections. He then said that he had had two cases of Hydatic dropsy, which had brought on pains exactly resembling labour pains; and that, in his opinion, these were the most likely after pregnancy, to have distended the womb and os uteri. It was upon this suggestion of Mr. M'Culloch's, in a great measure, that I fixed upon Hydatids as the most probable cause of the distention of the womb and dilatation of its mouth, independent of pregnancy and the delivery of a child, when questioned upon that head by the Counsel. It is fair to add, that Mr. M'Culloch still maintained the opinion that she had been delivered of a child, and that, of consequence, she had necessarily flooded to death.*

Now, I would ask any reasonable man, wherein do the sentiments which I supported in evidence differ from those of Mr. M'Culloch? I only pursued the argument one step further. If his opinion, namely, that she must certainly have flooded

* Mr. M'Culloch has seen this statement, and acknowledges it to be in substance what passed between him and me, before my departure for Lancaster. I understand, Mr. M. still maintains that Miss Burns must either have died of a flooding, or parted with a child that had been some time dead in the womb. Mr. M. had seen the womb soon after its extraction from the body.

to death if she had been delivered of a child, be true; then it will follow, that if she did not flood to death, she certainly could not have been delivered of a child. If any proposition be true the converse of that proposition must also be true. If twice two make four, with the same certainty will four make twice two. Although my deductions from the consideration of the structure, mechanism and physiology of the womb appeared to my mind conclusive and certain; I, nevertheless, must confess that their conformity to the experience of Mr. M'Culloch enabled me to support them with a confidence which otherwise I should not have possessed. Any man who is acquainted with the vigorous and clear judgement of this gentleman; and knows how completely his powers have, for more than twenty years, been devoted to his professional duties, will consider me justified in placing great reliance on his opinion.

I cannot pass unnoticed the very dishonourable and unmanly attempt which the authors of the "Vindication" have made to injure my character, by hunting after my private confidential conversations, and by the unfair use of those which they have so scandalously obtained. A system of espionnage, such only as could have been supposed to exist under the suspicious tyranny of a Robespiere,

seems to have fixed its cankering roots in the fair fields of Britain.

But I would ask my opponents, even though we had made a communication of our sentiments, what end could have been served by it? Do they suppose that by their giving up something, and me something, we should have come to something like an agreement in opinion? The idea is as absurd as it is unprincipled. Such a shaping and pairing of opinions does not at all correspond with my ideas of morality, in a case where an oath is concerned. I certainly think that I should be offering an insult to the understanding and virtue of any man, were I to make such a degrading proposition to him. And any proposal that I should swear somewhat differently from the convictions of my mind, in order that there might not appear any difference of opinion among us, would be regarded by me as equal to the most opprobrious appellation, and would certainly imply a belief on the part of the proposer, that I was capable of the most dishonest actions.

Besides, I do not think it at all allowable for a witness to communicate his knowledge and opinions to the witnesses of the opposite party. From the time that a man is subpœnaed to give evidence upon any case, he is bound by honour

and justice to avoid all communications that may defeat the effect of that evidence. This is especially necessary and right in cases where the interests and character of the witnesses are in any respect connected with the success of their evidence, or with the establishment of the opinions they are known to have adopted.

But it is said that the ends of justice may, in such cases, be always defeated; that, as the Judge and the Jury cannot be supposed to be fully informed on medical subjects, any difference of opinion between the medical witnesses must necessarily confound and deceive. But if there is any evil consequence likely to arise from this, that evil proceeds from the constitution of the court, not from the nature of the evidence. These gentlemen reflect upon the qualifications of the Judge and the Jury for discharging the duties of their situation. They libel their character, and accuse them of not being able to estimate the evidence that may be brought before them. The doctrine, that the witnesses of simple facts and of plain deductions from these facts, should take a greater range, connect these opinions and facts with circumstances, and constitute themselves, in a manner, judges, is dangerous in the extreme, and deserves the strongest reprobation. It cer-

tainly is a most arbitrary idea, and one most inconsistent with the principles of justice, (particularly with the humane spirit of the British laws) to maintain, that a man on his trial for life, should be deprived of the benefit of such witnesses as he may suppose, from their knowledge of the truth, may be serviceable to him. The proposition cannot be too much execrated. Were it acted upon in any case, it would afford a precedent that would lead to the overthrow of all those barriers by which our liberties and lives are protected, and put it in the power of any set of men, by forming a conspiracy, to destroy the property, character, liberty, and even life, of any man. If, in trials depending principally on medical evidence, any evil exist, (which I am far from supposing to be the case) it consists in the constitution of the Court. In trials respecting naval and military transactions,—transactions far removed from the ordinary occurrences of life, the Judges are naval and military men. The doctrine of the authors of the "Vindication" would lead to this, that, in such cases as the present, the Jury should be practitioners in medicine. But men of plain understandings, even in matters with which they are not fully acquainted, can easily discover whose evidence is plain and consistent, and whose is shifting and contradictory. Accordingly, we do not find

that, where the medical evidence has been opposite, the result has always been the acquittal of the Prisoner. In the memorable trial of Captain Donellan, for the murder of Sir Theodosius Boughton, the celebrated Mr. John Hunter, who had never seen the body of Sir Theodosius, contradicted the medical evidences for the crown; nevertheless, Captain Donellan was executed. Notwithstanding this diversity of sentiment, no blame was ever thrown upon Mr. Hunter, nor on the witnesses on the part of the prosecution. They were all supposed to have declared the honest sentiments of their minds on subjects upon which men might honourably differ. Alberti differed from Bonhius, and Boerhaave from Techmeyer, on cases upon which there were judicial proceedings. But not only have individuals entertained different sentiments on such cases, without any opprobrium to either, even colleges have done so. We find in Zittman, that a wound in the stomach was judged of its own nature *mortal*, by the faculty of medicine at Leipsic, and *not mortal* by those of Helmstadt and Wirtemberg. Valentini mentions, that a wound in the same part was declared *accidentally* mortal by the faculty of Giessen, and *absolutely* mortal by the College of Physicians at Frankfort.

There is one part of my evidence, to which, though it does not exactly come into the present inquiry, I trust I shall be excused for alluding, as an advantage has been taken of it for the purpose of detracting from my professional character. I was asked by Serjeant Cockell whether I had been bred to medicine. I replied that I had not, meaning that medicine was not the original destination of my life. Attempts have been made from this, to impress upon the town the belief that I was a self-taught doctor, and that I had, some how or other, obtained one of the St. Andrews, or God knows whence, degrees, which adorn the names of so many of my opponents. The truth is, I was regularly educated to be a Physician at Edinburgh, where I studied almost without interruption, during the long period of eleven years. I do not mention this with a view to arrogate any thing to myself on that account, as I know well that the attainments of men are not to be measured by the length of their academical studies. It is only a slight foundation of knowledge that can be laid by the most industrious, during the time generally allotted to academic bowers; for it must depend upon the employment of our future lives what kind of superstructure is raised. I was originally educated for the Church of Scotland, and had undergone all the various trials required

by the laws of that Church, previous to the exercise of the clerical functions. Those who are acquainted with the generally excellent education of the Scottish clergy, and with the length of time required by the institutions of that Church, to be spent by them in the preparatory studies of classical literature and philosophy, will not suppose that my early life has been misemployed, or that these studies did not afford a good foundation for a medical education.

It was by accident that I was ever concerned in this trial. Having, in the manner I have stated, seen the womb at Mr. Reay's, and having, from that time, entertained doubts respecting the delivery of a child; the subject, as was natural to suppose, considering the vast importance of it, took firm hold of my mind, and was repeatedly pressed upon its attention, by the frequency with which it was made the subject of conversation in all circles at Liverpool. The more I considered the subject of the pregnancy it appeared to me the more doubtful; so that at length I ventured to express these doubts in the private circle of my friends, not supposing that any use would be made of what I said. The knowledge of my doubts was conveyed to the ears of the friends of the prisoner. When the solicitor, on the part of the defence,

Mr. Atkinson of Lancaster, came to Liverpool in the course of last summer, to obtain all possible information on the case, for the purpose of preparing his brief; and when the medical gentlemen who examined the body, refused to give him any information, (though it was well known that they were closeted almost daily with the solicitor for the prosecution, and had thereby shewn that they were completely enlisted upon one side of the question) he, at the direction of the prisoner's friends, called on me, and requested my opinions upon the case. He gave me a statement of the particulars of the medical part, as drawn up by the prisoner himself, from his recollection of the examination before the coroner. I said I would take the case into consideration, and send him my sentiments in writing, in a short time. Accordingly I applied my mind to the consideration of this great question with seriousness and assiduity, and without bias. At the time the solicitor called upon me, it was not, I believe, intended, at least no mention of such an intention was made to me, that I should be required to go to Lancaster. I was, however, about a month before the trial, served with a subpœna, and was informed, at the same time, that some other medical gentlemen, particularly Dr. Campbell of Kendal, were also subpœnaed. From this

time I applied myself still more eagerly to the subject; for, independently of the duty by which I was now bound to endeavour to form a correct opinion, it was natural for me, expecting to meet in consultation on such an important case, gentlemen much my superiors in years and experience, and of high reputation in the world; to wish to appear before them in a favourable light. I knew, too, that it would be particularly expected of me, to bring all the information which my local situation afforded me an opportunity of obtaining. As it is well known that a knowledge of the temperament, habits, diseases and general health of the deceased, is of the greatest value in enabling any medical gentleman to form a correct opinion on such question; I availed myself of all the means that existed of being fully informed on these points, and that information had no small share in fixing the opinions which I supported. At Lancaster I met Dr. Campbell, of Kendal, who has long been known as one of the most eminent medical characters in the North of England. After a full discussion, we seemed to be of one mind respecting both parts of the question, and jointly communicated our sentiments to the prisoner's Counsellors, who, with the Solicitor, had assembled to receive our opinions on the evening before the trial. We both stated distinctly, that

as our opinions referred to the case that had been drawn up by the prisoner himself, and that as a slight omission or variation in the description might make an important difference in the conclusions that naturally followed, our sentiments upon hearing the medical evidence might be greatly changed. Both Dr. Campbell and myself said, at this consultation, that no good could be obtained, by our being examined in Court, and that they must depend upon the cross-examination of the medical witnesses for the establishment of what we conceived to be the truth. The Counsellors said that in this trial, which rested so much upon medical facts and anatomical details, about which they lamented that they were so imperfectly informed, they must depend in a great measure upon us; and for that purpose they proposed that we should take our seats immediately behind them in Court. This arrangement, accordingly was observed.—After, however, all the very able and long-continued exertions of the Counsellors, it appeared to them at the close of the examination of the medical witnesses for the Crown, that they had failed in completely establishing what they aimed at.—It was then proposed, first to Dr. Campbell, if he was willing to give evidence in court. That gentleman declined it, as he had neither seen the stomach nor womb of the deceased; but observed that,

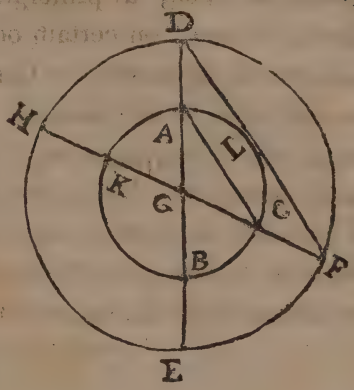
as I had, I might give my opinions with the greatest propriety. The question was then put to me.—It was at this moment of awful expectation a tremendous question. Duty called upon me to consent, but every thing else that could influence the human mind, opposed it. It appeared that it could only be a vain attempt to stem a torrent that, in the general opinion, seemed to be overwhelming. My conduct, I knew, would be exposed to malignant interpretation. The constituted authorities of the town in which I lived, and on the good opinion of which the subsistence of myself and family in a great measure depended, were embodied in the prosecution. I found that I should have to perform the ungracious office of contradicting the sentiments of the other medical gentlemen who had been examined, with whom it was my interest, and a great gratification, to remain on terms of friendship. I would ask any man if any earthly consideration, or any of those sinister motives which my opponents have so freely and uncharitably imputed to me, could have influenced my conduct on so trying an occasion. I was supported alone by the consciousness of rectitude, by the imperious demands of duty, and, above all, by the conviction that I might one day have to answer for my pusillanimity before a tribunal still more awful than that before which the prisoner then stood——even the tribunal of Heaven.

The authors of the "Vindication" have, with much feeling, lamented over the ruins of my reputation, and with admirable delicacy, predicted the complete destruction of my prospects. Far be it from me to imitate these gentlemen, in presumptuously laying claim to the attribute, which belongs alone to the great Searcher of hearts, that of discerning the hidden motives of human actions. But the consequences of our actions come fairly within the scope of human examination. So far as it has been in their power, those gentlemen have contributed to the accomplishment of their predictions. But should even the consequences which, with so much appearance of satisfaction, they have predicted, or worse even than what their hearts could wish, be realised; it is impossible that I should ever feel the least compunction for what I have done. On the contrary, this transaction will ever be contemplated by the eye of reflection, with a delight that will more than counterbalance any transient evil that may proceed from it. Character and interest are worthy the consideration of every good man, but by no means ought they to occupy the first place in the scale of duty. It has ever been the rule of my life, and I trust I shall never be induced to swerve from the sacred maxim, to do what my conscience tells me to be right, and to leave the consequences to God. But let me tell these gen-

tlemen, that there exists, deeply rooted in the hearts of men, a principle of justice, which, though it may, on certain occasions, be for a time suppresed, overawed or blinded, will, at length, prevail over every passion, and will assume the seat, which prejudice may, for a time, have unfairly occupied. When that period arrives, which, I perceive, is, in this case, not far distant, it will then be known who shall have the greatest cause to lament over the ruins of his reputation.

NOTE. *See Page 78.*

Let A B C and D E F be two great circles in the same plane, of two concentric spheres.—Let A L C be any segment of the great circle of the lesser sphere. Through A, C, draw the diameters D A G E and F G K H. Join A, C, and D, F.



Then, G A : G D : : A C : D F. Therefore, B A : E D : : A C : D F. But the base A C, is to the base D F, as the segment A L C is to the similar segment D F, therefore A B, is to D E, as the segment A L C is to the segment D F. But as A B, is to D E, so is the cube root of the sphere of which A B C is a great circle to the cube root of the sphere of which D E F is a great circle. Therefore the segment A L C of the lesser circle, is to the similar segment D F of the greater circle, as the cube root of the less sphere, is to the cube root of the greater. Suppose the cube root of the sphere, of which A B C is a great circle = n; and the cube root of the sphere, of which D E F is a great circle = m; and let A L C = b, and the similar segment D F = x. Then n : m : : b : x, but by supposition $m^3 = 5\,n^3$. take n equal to any number, as 2; $m^3 = 5 \times 2^3 = 40$, $m = \sqrt[3]{40} = 3\frac{1}{2}$, very nearly. As the diameter of the supposed placental mark was $7\frac{1}{2}$ inches one way, and $6\frac{1}{2}$ the other way, this space would be equal, very nearly, to the area

of a circle whose diameter was 7 inches. Then b = 7. Therefore $2 : 3\frac{1}{2} :: 7 : x$. x = 12 250, which would have been the mean diameter of the placental mark at the full period of gestation; or, neglecting the fraction, 12 inches.

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